

ATHLETIC JOURNAL

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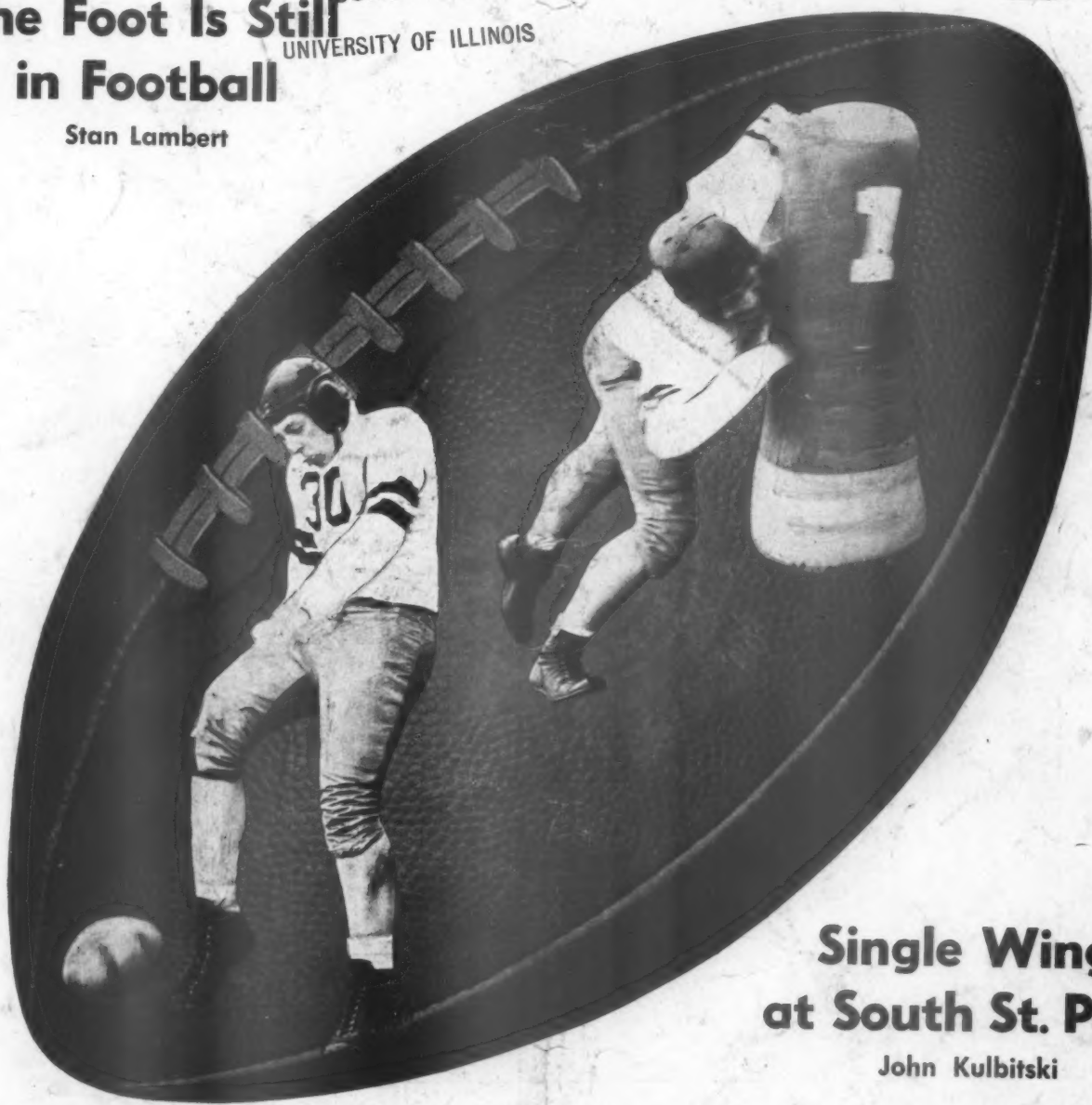
June, 1948

The Foot Is Still in Football

Stan Lambert

JUN 11 1948

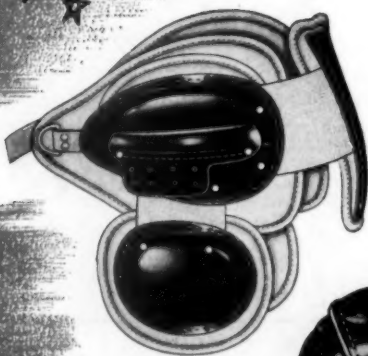
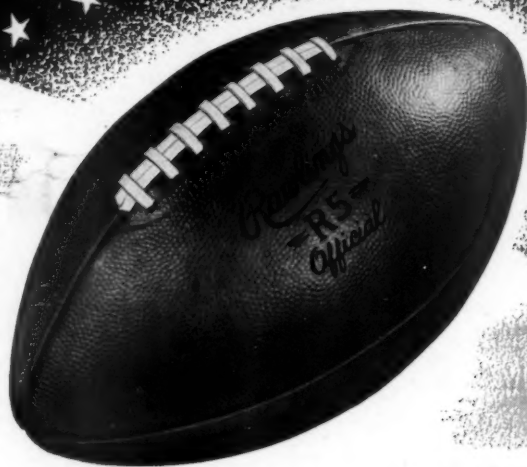
UNIVERSITY OF ILLINOIS



Single Wing at South St. Paul

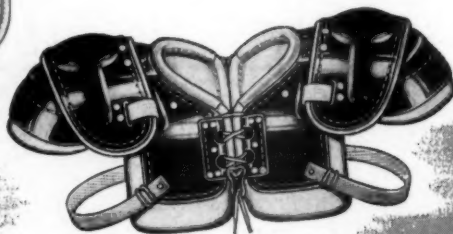
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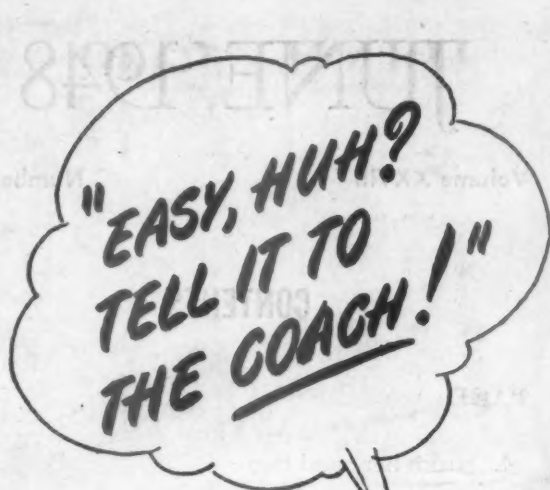


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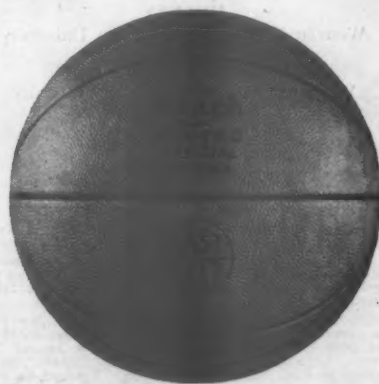
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Published by
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6858 Glenwood Avenue
Chicago 24, Illinois

MAJOR JOHN L. GRIFFITH
Founder

JOHN L. GRIFFITH
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1948-1949

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Published monthly except July and August by the Athletic Journal Publishing Company, 6858 Glenwood Avenue, Chicago, Illinois. Member Audit Bureau of Circulation. Request for change of address must reach us thirty days before the date of issue with which it is to take effect. Duplicate copies cannot be sent to replace those undelivered through failure to send advance notice.

Subscription Prices: \$2.00 per year; \$3.00 for two years; \$3.75 for three years; \$1.20 for six months; \$1.00 for five months; Canada \$2.50 per year; foreign \$2.75 per year. Single copies 25 cents for current volume, 35 cents per copy for back volumes. Copyright 1948, The Athletic Journal Publishing Company. Entered as second-class matter, August 14, 1925 at the post office at Chicago, Illinois, under the Act of March 3, 1879; additional entry at Rochelle, Illinois.

JUNE, 1948

Volume XXVIII

Number 10

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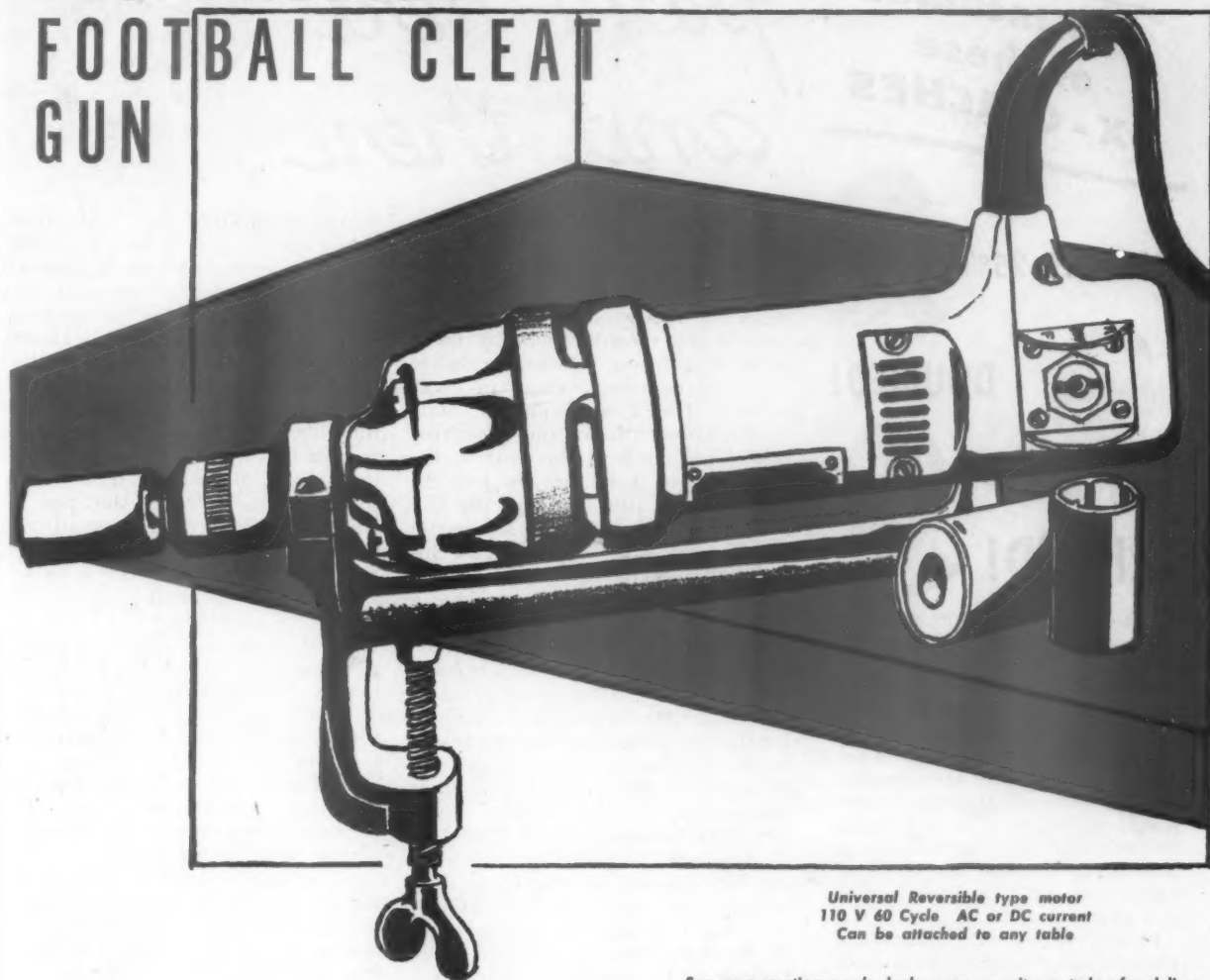
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FRONT COVER ILLUSTRATION

Bill Metzel, quarterback of the East Lansing (Michigan) High School gets in some practice in punting and blocking.

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A-39

from here and there



Although no action has as yet been taken, it has been proposed that skiing be made an approved sport for high school students in Idaho... With the exception of the half-mile relay, track records made by Oklahoma high school athletes are better than the national average in every event... The first Tennessee State High School Clinic and Coaching School will be held this year at the University of Tennessee on July 29, 30, 31. Coach Jim Tatum of the University of Maryland will lecture on the T and Bob Neyland and his staff will also give instruction in football... Baseball has again become a major sport in the high schools. There are now approximately 8500 high school teams and twenty-seven states that have state-wide series which crown a state champion... Revived for the first time since the war forced its abandonment seven years ago, the National Collegiate Table Tennis tournament was held at the University of Oklahoma on May 22 and 23... Also something new for those looking for a means of expanding their athletic programs, the first annual National Collegiate Rodeo, sponsored by the Colorado Western State College at Gunnison, Colorado, was held on May 8. Among the events included were calf-roping, bull-riding and bareback broncho riding.

Oliver "Ollie" Olson, former Northwestern University athlete, has been appointed head football coach at Beloit College, succeeding James Esterbrook who resigned to enter private business. Olson played fullback for Northwestern for three years, graduating in 1934. Olson comes from Black Hills Teachers College, where he has been head coach since his discharge from the navy in 1946. Olson was also captain of the Wildcat track team, and served as track coach at Carleton and Macalester. At Carleton he assisted in football and was head football mentor at Macalester. An interesting quirk of fate brings Ollie once again together with his high school track coach, Herbert Hodges. Hodges who coached Wheaton, Illinois, High

School when Ollie was on the team, is now track coach at Beloit... Grinnell, another member of the Midwest Conference, recently engaged two high school coaches to fill vacancies in its athletic department. Hervey A. Brown leaves his duties as football coach at Lovell, Wyoming, High School to become line coach, and Burl Berry resigns as athletic director at Teachers High School in Cedar Falls, Iowa, to become track coach. Johnny Pfitsch leaves the post of athletic director and football and basketball coach at Midland College, Fremont, Nebraska to become basketball coach at Grinnell.

At the recent N.C.A.A. wrestling championships held at Lehigh University, the Olympic rules were used to acquaint the college wrestlers with what they will be up against at London this summer. These rules proved to be unpopular with both the contestants and the spectators. The Olympic rules favor the wrestlers with strength rather than agility. The "rolling fall" counts heavily under the Olympic rules, and a fall during any part of the match ends it at once... For some strange reason, college baseball coaches usually come directly from college ranks or have played professional ball. However, Frank Prentup, whose Colorado team is leading the Big Seven Conference has coached for thirteen years in Kansas high schools, namely, Geneseo, Frankfort, Beloit and Manhattan... Marvin Bell goes from Milwaukee East Division High School to duties as end coach at Marquette... Roy Wilson who has been line coach at Fair Park High School in Shreveport, La., has been named assistant football coach at L.S.U... When "Bo" Rowland resigned his football chores at Oklahoma City University to take over the footballers at George Washington, his place was taken by Orville Tuttle, line coach for the Boston Yanks last year. Tuttle will be assisted by an equally famous gridiron great, Ace Gutonski... Bill Pescione, former football coach at St. Bernard's High School in Fitchburg, Massachusetts, has been named assistant foot-

(Continued on page 39)

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JOURNAL

So far as we know there are no secrets in the successful employment of the punt as an integral part of the offense. I make no claim to having a secret formula for coaching my punters nor do I offer anything new on the technique of kicking. Although I will cover technique in this article, most of what I know about actual kicking may be found in any good textbook on football or will probably be explained and demonstrated at next summer's coaching schools.

Whatever success I might have had as a punting coach I attribute to four factors: (1) I am convinced that the punt and quick-kick are powerful ground-gaining offensive weapons. (2) I work diligently, searching for, and developing, potential kickers, and drill my squad on the kicking game as a part of each workout. (3) I instruct our field generals thoroughly in how to use the kicking game most effectively, and most important of all (4) I put my theories into actual practice in competition.

Kicking Game Is Fully Unappreciated

Space limitation does not allow much opportunity to enlarge on the value of the kick as an offensive weapon. Even attempting to do so might be compared to giving advice when your enemies won't believe it and your friends won't need it. Many experienced coaches are already convinced of the value, but the youngsters in the coaching game who cling to the theory that every play is a potential touchdown, will still wait until fourth down to kick under most circumstances.

The average spectator does not appreciate the value of sound kicking strategy, nor do the sports writ-

ers hunt feverishly for new superlatives to describe brilliance in this department. The spectators pay a rousing tribute to the "scat" back who runs east-west for a net gain of eight yards and the sports writers put his picture in the Sunday morning sport pages, but both let a well-placed punt from the kicker's 30-yard line, that gave the ball back to his team three plays later on the fifty, go unnoticed. Suffice it to say that most of the close games, Saturday after Saturday, are decided by a break in some phase of the kicking game.

Work On It!

If the kicking game is to figure prominently in the offensive pattern, several plays from the long-punt formation become necessary. To kick every time we go into long-punt formation is to dare the opposition to block the kicks. Therefore, we like to have the following plays to keep our opponents guessing: (1) A fake-kick and sweep around our right end. (2) A fake-kick and hand-off to the fullback (Statue-of-Liberty style), hitting inside or outside the defensive right end. (3) A quick-opening trap-play on the weak-side tackle with the short-side halfback carrying the ball. (4) A trap on the weak-side guard with the short-side halfback spinning to the fullback. (5) A fullback buck, between the guards. (6) A fake-kick and pass "up

STAN LAMBERT spent thirteen years coaching football at Austin, Texas, High School where his teams won one state championship and compiled a ten-year won-lost percentage of .870. During this period his teams failed to score only three times. He has developed such kickers as Raymond Jones, Bobby Coy Lee and Sonny Wyatt and is author of "The Quarterback's Bluebook".

on the rushers involved, and how the deep pass makes the halfbacks a little slower to drop back to help the safety return the punt.

Our daily work schedules generally have this notation somewhere in the plans: "Long punt: approximately ten minutes." For this we put our third team on defense and first team on offense in the long-punt formation. Then we stand between the defensive halfbacks facing the offensive team and give them signals on our fingers as to which play from the long-punt formation we want them to run. Holding the finger signals against the chest hides them from the defensive backs, and



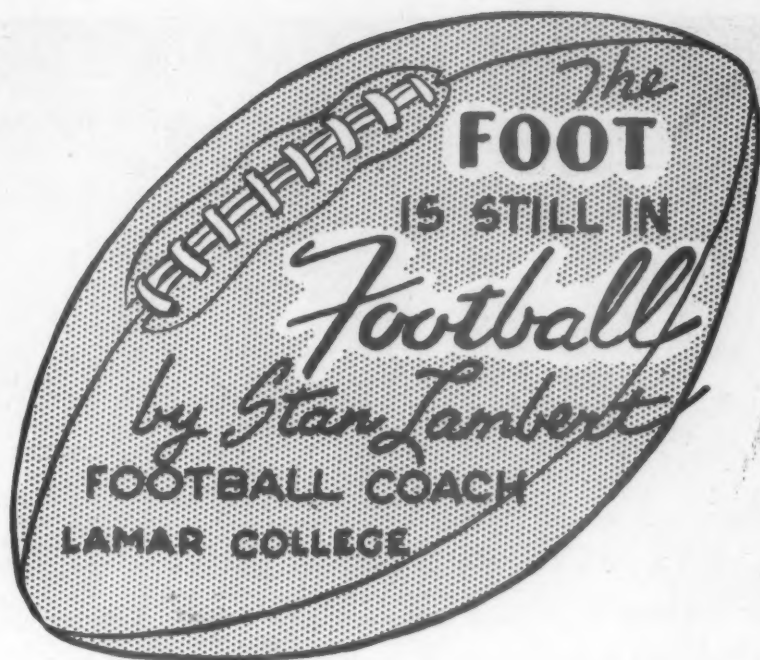
the slot" between the halfbacks and (7) A pass in the right flat zone. It is easy to visualize the effect that these running plays and the flat pass have

we are behind the linemen and linebackers so they cannot see the signals either. In calling the plays we give the punt signal on an average of about every third time and then intersperse the others between them. The defense is instructed to make an honest effort to block the punt. In this way we can give the players practice punting under pressure and running the various other plays from the punt formation under game conditions. After we have drilled the first group in this way, we put in

another team and repeat the process. Once the squad becomes accustomed to the routine, ten minutes are enough to spend on it. We consider this to be one of the most valuable periods of the workout. We do not think this is too much time to spend on plays that we know will be called from five to twelve times every week.

Quarterbacks Must Know How to Use It

Our first phase in training quarterbacks is entitled, "When to Punt." It generally takes us four or five 45-minute sessions with the field generals to convince them of the value of the punt and show them how we want it interwoven into the over-all strategy. We emphasize the point that if they do not make mistakes in calling the kicking game, their generalship up to our 40-yard



merely giving instructions to wait one down later each time to kick than is generally done under those circumstances.

Now Use It!

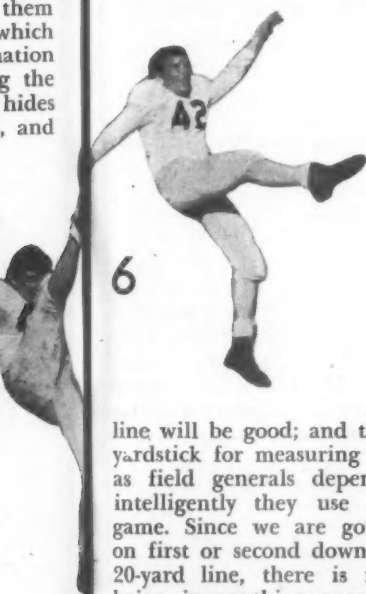
The last step is to insist that the game be called according to our instructions in regular competition. It is sheer folly to spend as much time and effort as we do in developing a good kicking game based on sound kicking strategy, and then wait until fourth down to punt in the game. This goes back to our first point—the coach must first of all believe in the punting game as an offensive weapon. He must make his quarterback realize that the game is played in four quarters and that the winner is determined by the team that is ahead at the end of the last one. He must also have the long-range idea in building up to the touchdown rather than using the hit-or-miss theory. He must not be in too great a hurry to score because the saying, "haste makes waste" certainly applies to offensive strategy in football. It is offensive, not defensive play, that "uses up" a team. Couple sound kicking with sound defense; kick and "bide your time" until you are in position to put on a scoring drive. This won't give you as many first downs nor as many yards gained as your opponents, but it *will* net more touchdowns.

The following incident is one of many that convinced me of the value

of the quick kick as an offensive weapon: In 1942, in what finally turned out to be the state championship game, we had the ball in mid-field with three minutes to play and we were trailing 10 to 7. On third down we quick-kicked out-of-bounds on our opponents' three-yard line. They gave us an intentional safety, making the score 10 to 9 with less than three minutes to play. Our halfback made a nice run back on the return of the free kick, pulled a sneak pass and scored. Then, after we kicked off to them, they started passing from deep in their territory and the same halfback intercepted one and returned it all the way for the second touchdown. The final score was 23 to 10. The stands and the newspapers went wild over the two pass-plays, but the brilliantly executed quick-kick that made it possible, went by unnoticed.

The accompanying illustrations show the punting form of Reed Quinn, 185-pound punter and quick-kicker on the Austin 1947 team. Quinn's season average was 45.7 yards. His form is not an example of perfection, but the results were excellent. His best single game performance was seven kicks for a 54.5-yard average. Two of these kicks went out-of-bounds on the one-yard line.

Illustration 1 shows his full step with the left foot as he gets his rhythm before starting the swing with the kicking foot. Note the position of the right hand on the ball. In this step he has extended the ball farther in front of him.



line will be good; and that our first yardstick for measuring their ability as field generals depends on how intelligently they use the kicking game. Since we are going to punt on first or second down behind our 20-yard line, there is no sense in being in anything except the long-punt formation back in that territory. It should be kept in mind that all of this instruction comes before we ever mention any other part of offensive strategy. In other words we consider this the cornerstone of our offense.

When the foundation is laid and the season begins, we tell the quarterbacks from week to week how we want the punting game called. Sometimes conditions will alter our general strategy. We might give the blanket instruction, "Let's cheat one down in the kicking game today," or "Cheat one down on the kicking strategy when the wind is against us, and stick pretty closely to the book when it is with us." This is



Illustration 2 shows the layout as his kicking foot starts its upward swing, and as he prepares to drop the ball with both hands simultaneously. He is dropping the ball higher from the ground in this picture than we like to have him, thus causing him to pull his weight backward.

Illustration 3 shows the contact of the foot with the ball. The camera clicked a split second late and gives an exaggerated illustration of having the toe depressed and turned to the inside at the moment of contact. Note how low the ball is at the point of contact.

Illustration 4. The first stage of the



follow-through after the kick.

Illustration 5. The completion of the follow-through.

Illustration 6. "Coming back Down" after the kick.

Illustration 7. Quinn used this unorthodox stance for two reasons: (1) He could kick better using the quick-kick rocker step. (2) Our snapper-back was not too strong; therefore, he kicked from eight yards back using this stance on our long-punt formation and all quick kicks.

Illustration 8 shows him just as he received the ball from the center from the upright stance used in the long-punt formation. His kicking foot is

slightly in advance of the other foot, his knees and waist slightly bent and his arms extended over the kicking leg.

This illustration also shows his grip on the ball with the left hand and the position of the ball over the kicking foot as he prepares to take his first short step with the kicking foot.

Illustration 9 shows the first half-step with the kicking foot. Note that the ball is still just a little above the knees and that the body is still in a semicrouch.

Illustration 10 shows the layout from the front and the relation of the ball to the front of his body.



Pass Defense

In Minnesota

By Kenneth Wilson

Bemidji, Minnesota, High School

PASS DEFENSE is the "Hot Potato" of football wherever football is played. The down-town quarterbacks are either giving the coach credit for having a good pass defense which can throw up the "iron curtain" on all opposing passing combinations, or are condemning him for not having a pass defense at all. How often we have heard the remark, "He has a great ball club, but it is too bad that he doesn't have a pass defense." Incidentally, most teams that have a high percentage of wins usually are given credit for having a good pass defense, and the ones that are on the short end of the score most frequently are the teams that the down-town quarterbacks claim lack the necessary pass defense. If we assume the preceding statement to be correct, it behooves us, as coaches, to take steps to remedy the situation if we have not already done so. My suggestion is that all coaches should realize that an effective pass defense is a "must" for a well-rounded football team. In order to accomplish this objective, as much time and effort should be spent on pass defense as on any phase of football. Then, even though a mechanically-perfect defense is devised, there is always the possibility of a Dick Lawrence or a Benny Noland upsetting the best-laid plans.

We use the 6-2-2-1 defense at Bemidji High School because we feel that it is the most direct and effective way of defending against a strong running and passing attack. Shortly after our spring practice gets underway (we are fortunate in the respect that we have a spring practice), we call our squad together for a chalk talk to explain our basic defense. During this first meeting, and in all succeeding chalk talks, we emphasize the following fundamentals and principles as they apply to our pass-defense pattern. This consists of a combination zone and man-for-man defense deployed off of our 6-2-2-1. We particularly try to impress upon the linemen the important part they play in pass defense. Too often linemen, as well as spectators, seem to feel that stopping a well-oiled passing attack

(Continued on page 40)

and Texas

By Maco Stewart

Longview, Texas, High School

GOOD PASS defense is, perhaps, the hardest thing to teach in football. We attempt to teach it through a series of drills.

Players should be trained, first of all, to react fast and be alert. We use a drill where the players are placed in two facing lines and have each of the boys on one side dodge, side-step, feint, and attempt to maneuver the player opposite him out of position. The defensive player must be alert, be able to feint and go backward or in any direction with his opponent. We believe that we are not only teaching defense, but also teaching our receivers. We give the boys a great deal of practice in using a cross-over as they turn to go back with a man. I believe that much time should be spent on teaching the boys to retreat and stay behind the receivers. The defensive players should be cautioned about dropping back on their heels, or being caught flat-footed.

We give drills in starts of about ten yards each. Players are then taught to (1) retreat and look over their outside shoulders; (2) charge forward and tackle the receiver as he touches the button-hook pass; (3) keep the receiver in front of them, play them loosely, but not overdo it.

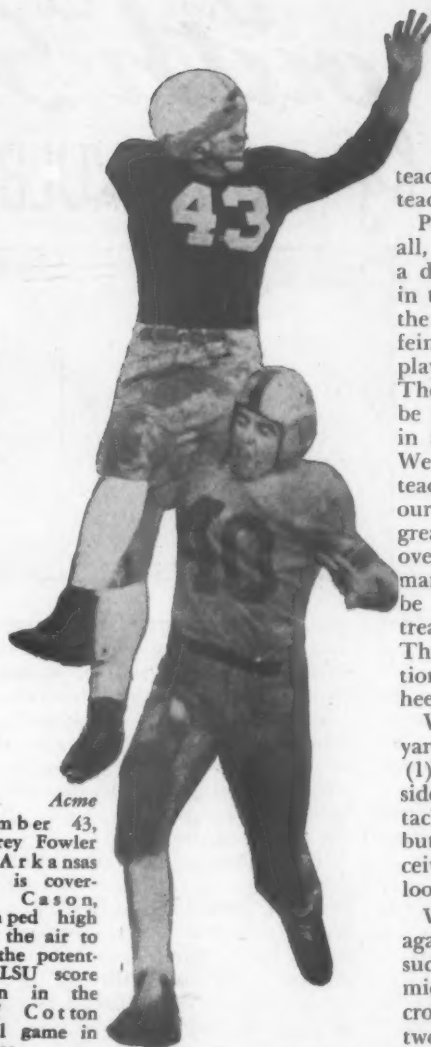
We teach our players to defend against the different types of passes, such as (1) the quick pass over the middle; (2) the deep pass; (3) the crossing of the receivers; and (4) the two receivers splitting on the defensive man.

We continually tell our boys that the ball is as much theirs as it is the offensive team's while it is in the air. They are taught to fight for the ball and try for an interception.

A drill that we use in teaching the boys to fight for the ball is to place four or five boys in a group, and then toss the ball in the air and have the boys scramble for it. They are told to try to catch it, not just knock it down. This will teach them to judge the flight of the ball, and will teach timing and co-ordination.

We drill our defensive men on running at full speed forward and catching a ball. We try to set up a situation

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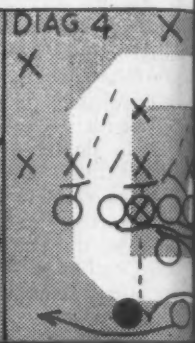
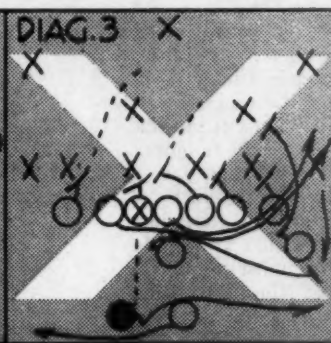
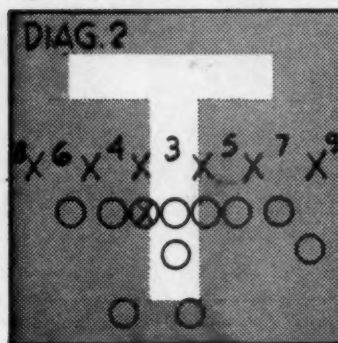
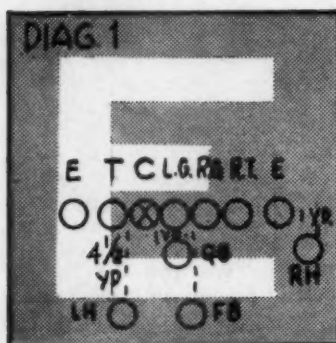
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bat the poten-
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down in the
1947 Cotton
Bowl game in
Dallas.

MACO STEWART played end for Southern Methodist University in 1935. He coached at McAllen High School for five years before entering the Navy. His team at Longview lost in the semifinals of the state race in 1947. He is a member of the board of directors of the Texas High School Coaches Association.

KENNETH "RED" WILSON graduated from the University of Oregon in 1938 where he played football under Dr. Clarence Spears. He has coached at the high schools at Fosston, Little Falls and Bemidji—all in Minnesota. He was guest speaker in 1945 at the Minnesota State High School Coaching Clinic where he discussed the passing attack.

Single Wing South^{at} St. Paul

by JOHN KULBITSKI FOOTBALL COACH



DURING my five years of coaching I have used a basic single-wing formation, with variations necessitated by changing personnel. I like the single wing because of the maximum blocking power that may be coupled with a considerable amount of deception. In this formation, I believe a more effective offense may be built with a limited supply of outstanding backfield men. For instance, if, or when, we have had only one good back, we have been able to utilize his potentialities to a fuller extent than with some of the other formations.

It is commonly mentioned that the single-wing formation has a weakness for plays to its short side. In our case we found this to be untrue; our reverses were our most effective ground-gaining plays in most of our games.

Selection of Linemen

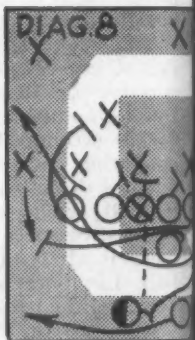
The average material fits the single wing very well. The key men are the two ends, the center, and the running guard. Both of the ends should be agile and, if possible, good sized. They have the biggest responsibilities in blocking. We have them blocking the tackles unaided in most instances. Therefore much of our time is spent on blocking fundamentals for the ends.

The most important qualification in selecting a center is his ability to

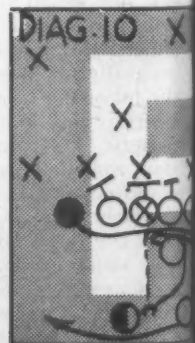
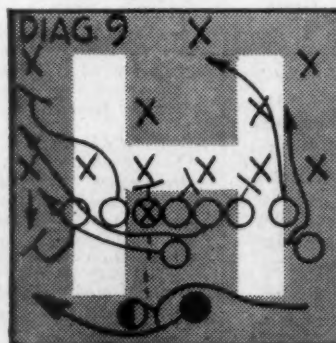
pass the ball accurately. Without this and correct timing of the snap-back, many of the plays will be unsuccessful. We minimize the importance of the center's duty to block and give him aid in most of his blocks, since we have found that the average center worries about getting his pass off and having to block. This worry affects the timing of the play.

The running-guard is a very important downfield blocker, and, at times, is used to cross-block the defensive ends and tackles. He need not be big, but he should have better-than-average speed and agility. If there is an over-supply of fullbacks, one may be easily shifted to this position.

Other linemen will be discussed in the order of their importance. The faster and the more agile of the tackles is placed at the left-tackle position.



We use this man in pulling out and leading the ball-carrier on some of the plays. We also use him for cross-blocking. On weak-side plays, his blocks on the defensive guard must be fast, because one usually finds a fast-



knifing guard playing in this position.

If we have some big, awkward boys who may have other strong football attributes but are weak in blocking, we place them at right tackle and right guard. In most of our plays the blocking responsibility here calls for easy check-blocks which do not require the speed and agility of the other line positions.

Placement of the Backfield Men

As was mentioned before, if we have only one good back, his ability is utilized best at the left-half position. This is the position where a good

positions there are three backs who can receive the snap from center.

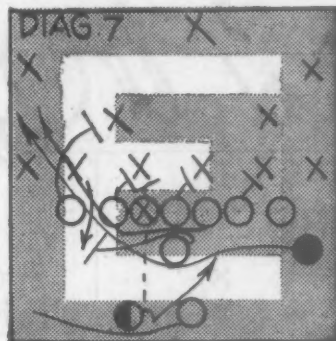
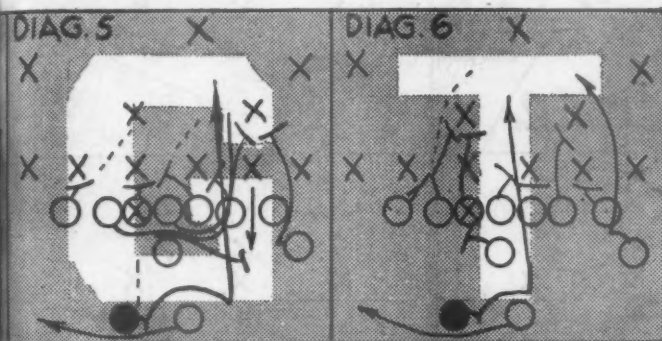
Footwork of the Backs

We use half-pivots by our left half and fullback in our ball-handling. I believe that we can get maximum deception and quicker line-hitting with these than by using a full spinner. They are, also, much easier to learn than the full spinner.

Let us start with the footwork and stance of the left half. His feet are about one and a half feet apart, knees bent, weight of the body on the balls of the feet, and elbows on the thighs.

plays, although we may sacrifice some better angles on our blocks in some of the play series. We feel that there is an advantage in making the line-blocking assignments as simple as possible. In this way we can have more play series in our backfield and a more versatile attack. This gives us a half-dozen different end runs with approximately the same blocking assignments.

A few simple blocking rules are given to our linemen early in the season. These rules help simplify their blocking assignments against various types of defenses. Here is an example: On our 7 play, our end has the re-



triple-threat man may be utilized to the utmost advantage.

The next most important player is the blocking quarterback. We use him on many of our key blocks, such as blocking on the tackles and ends, and also downfield. Much of the team's success is based on his blocking ability. For this position we like a big and smart boy, with better-than-average speed. A good running-guard may be converted to this position with complete success.

The right half and fullback may be average performers and are of equal importance, although we like to place the faster man at the right-half position so that our reverses will be more effective.

Basic Formation

The basic formation of the single wing is illustrated in Diagram 1. The ends are split from one and a half to three feet from the tackle. The rest of the line is in closed formation. The quarterback is about a yard behind the left guard so that he is in position to receive the snap from center. The right half is about one yard back and to the outside of the right end. The left half is four and a half yards deep, in the gap behind left tackle and center, and the fullback is four and a half yards deep, in the gap between the left and right guards. From these

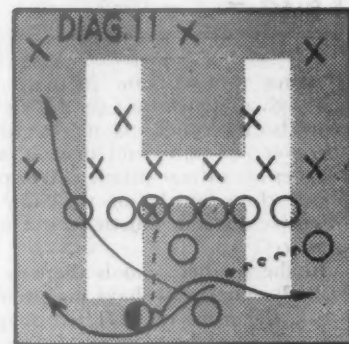
When the ball is centered, it should hit the left half's outside thigh just slightly above his right knee. As the ball is snapped, he steps forward with his left foot, at the same time catching and bringing the ball back to his right hip. With this, the hip should be pivoted to the right, hiding the ball from the view of the defensive team. Following this the fullback runs to the left, either faking or getting the ball. The fullback's stance is the same as the left half's.

The quarterback and right half may use the same stance or the three-point stance. On the snap of the ball each takes a short step, body-fakes to the left, and then carries out his assignment on plays to the right. This will give added deception and better timing for the ball-carrier and his blockers.

Signal System

Our plays are numbered according to the defensive position of the opponents, the odd numbers to the right, and even numbers to the left of center, as in Diagram 2. The first digit of the play number tells what back will get the ball from center first, and the type of faking that will be used. The second digit denotes the direction of the play.

We standardize the blocking for each hole except for a few special

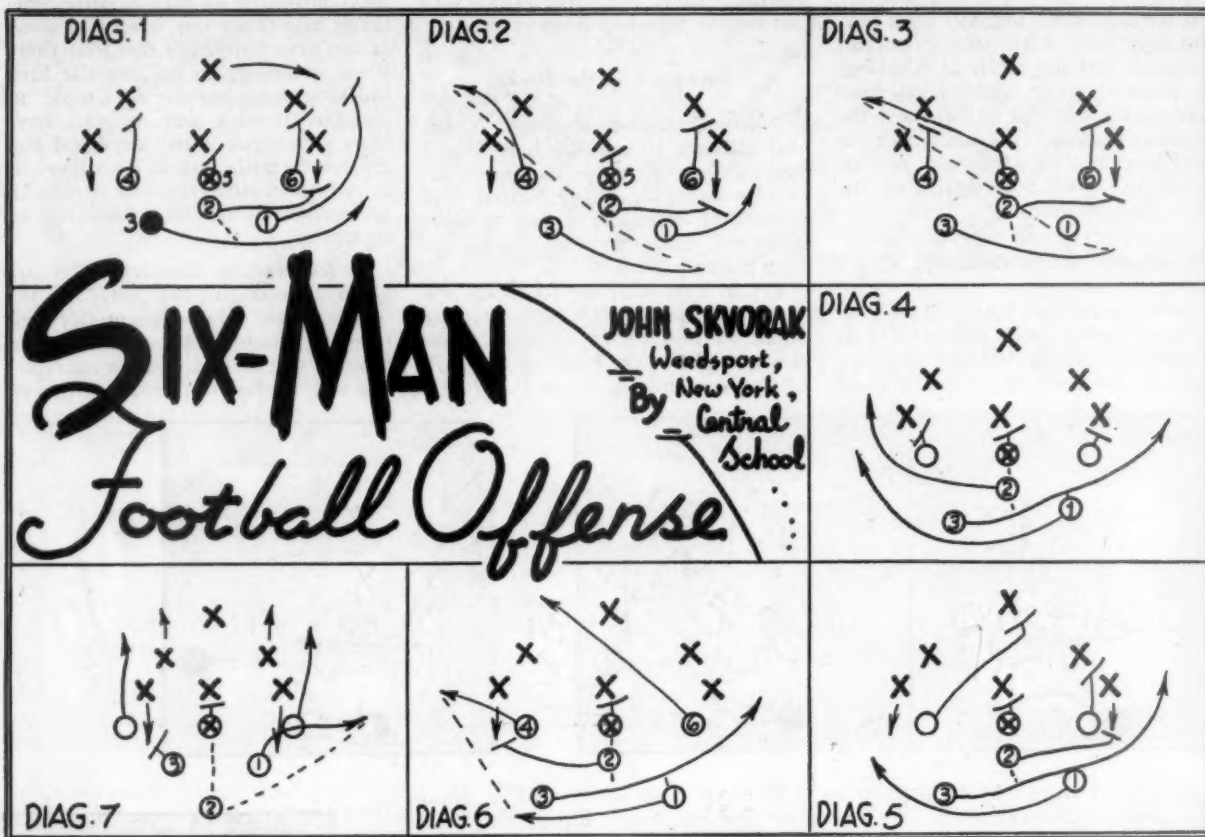


sponsibility of blocking the tackle in. The line may be heavily over-shifted so that this defensive tackle is playing well to the outside of our end. Our end will then block the man playing in front of him in, or if there is no one there, he will block the first man to his inside. Next, the defensive tackle will be treated as an end and the regular defensive end as a line-backer.

Basic Formation Plays

Diagram 3. This is our 69 play. The left half fakes to the fullback, keeps the ball, and runs around the defensive left end. The quarterback and right half each take a short step to the left with a body-fake before continuing with their blocks.

(Continued on page 38)



Scores in six-man football run higher than they do in eleven-man because there is more ground to cover per man, and because most coaches are offense-minded. We spend about three-fourths of the time on offensive and one-fourth on defensive practice.

In the smaller schools there is not enough material to have an offensive and a defensive team. There may be a few players who excel on offense and a few others who excel on defense. In such cases they may be interchanged as the need arises.

In picking the team personnel, the coach must look for the following qualities in his men:

1. *Speed.* I consider this the prime requisite for playing six-man football. We do a great deal of running during practice all through the season. We start gradually the first week and increase the tempo through the third week. Three or four thirty-yard sprints each day during the first week and a gradual increase in distance to sixty yards are good conditioners and give the coach the information as to the fast boys.

2. *Shiftiness.* This may enable a slower man to score as readily as a speed "demon." After three or four

days of running and general conditioning, we divide the boys into two squads. Those who are older and more experienced are put in one group and the younger boys into another. In each group we have one line of ball-carriers and another of tacklers. They change lines after each play. The ball-carriers run between two parallel ten-yard lines after receiving a pass from center. The ball-carrier, by being restricted in space, has to dodge, change pace and fake to get by the tackler. When the ball-carrying and tackling are satisfactory, we move on to the regulation field. Two lines of tacklers form, one on each side of the center. The ball is punted and the two tacklers go after the ball-carrier. By that time we usually know who the linemen will be and who will be candidates for the back field.

JOHN Skvorak received his early training playing basketball and baseball at St. Lawrence University. During his six years of coaching six-man, his teams have won 30, lost 1. This summer he will give the course in six-man at the New York State Athletic Association Coaching School at Hamilton College.

In this practice the linemen are the tacklers.

3. *Leg Drive.* This is always helpful, especially when a short gain is needed for first down. For this, a ball-carrier with one-man interference, runs around the end (right and left) and through center against a defensive team. A man with good leg-drive can make an extra yard after being hit.

Personnel Requirements

1. *Good Pass-Receiver.* They help the team not only in gaining ground but also in acting as decoys. For this, practice pass plays should be set up against a defensive team so that the receiver is working under game conditions. A coach can tell whether his potential varsity end can outmaneuver or outrun the defensive back.

2. *Good Ball-Handlers.* A back must be a good ball-handler. This is especially true in any fake and in making a sequence work. We divide the squad into groups of three players, each corresponding to a center, quarterback and halfback. The center passes to the quarterback, who laterals to the halfback and leads the

interference to the right or left as indicated.

In another ball-handling exercise we use groups of four players who correspond to a center, quarterback, halfback and end. The pass goes from the center to the quarterback, who laterals to the halfback who runs to the right and passes to the right end cutting to the right, or to the right end cutting to the left, or to the right end going downfield. The same exercise may be worked to the left.

In a third exercise four players are used in a group. These correspond to a center, quarterback and two halfbacks. The pass goes from the center to the quarterback who laterals to the halfback. The halfback passes to the center over the scrimmage line and the center laterals to the second halfback.

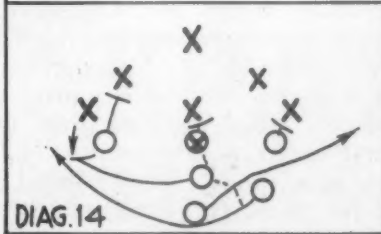
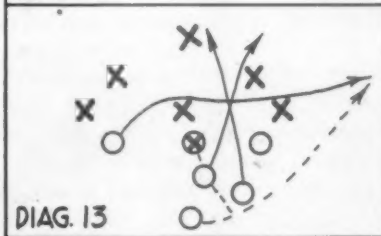
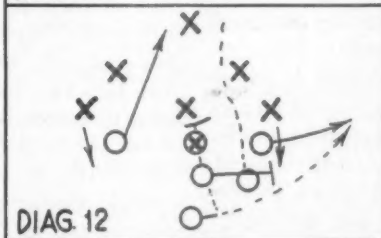
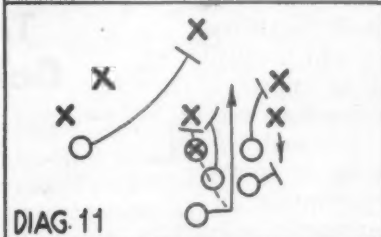
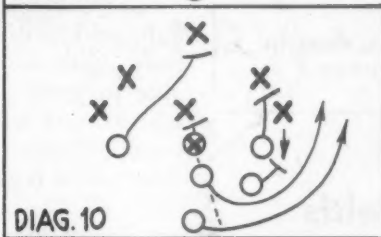
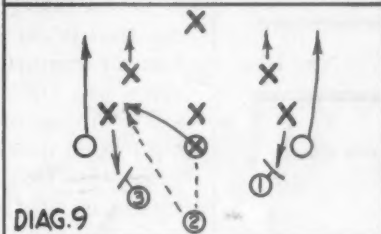
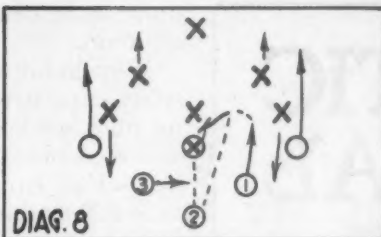
The coach should not have too much difficulty in determining whether the team is better suited for running or pass plays. If the running system is adopted, there must be enough pass plays so that the opposition can not play the defensive backs too closely to stop the running plays.

3. *Good Quarterback Material.* The quarterback is an important offensive cog. He needs to be able to make a good play selection, be a good ball-handler and a good blocker.

Although it is possible to substitute freely, I let the quarterback handle the play situation except when he is ignoring a defensive weakness. The defensive left end may be playing too closely to the center and a run around the left end looks like a ground gainer. I may send in a substitute quarterback, or a blocking back who will give the necessary information to the quarterback.

In general, if we know that our opponents are weak on pass defense, we concentrate on three or four pass-plays which are used when a scoring opportunity presents itself. Good pass-receivers get extra work so that these plays work when tried. Running-plays help pass-plays work and pass-plays help the running game.

Too many plays cannot be well-executed because high school boys do not develop the proper timing. We use twenty to thirty plays, some of which are slight variations of each other. We work on about two plays in a practice session. The general pattern of most plays is given to the squad during the first two weeks of practice. Learning one sequence at a time will give the players confidence in carrying out assignments and make for better ball-handling. On each play the same player has an assignment and we do not shift backs



on the same play. By doing this we can call the play in the huddle as — "Around right end on the second signal." We are not required to call the plays by number or to designate who the ball-carrier will be. The simpler the system the fewer mistakes there will be.

Diagrams 1, 2, and 3 illustrate a sequence of around-right-end plays from the double-wing formation. In Diagram 1, the left halfback, 3, carries the ball around right end. In Diagram 2, the offensive left end lets the defensive right end through and cuts to the left to receive a pass from the left halfback who has started around right end. Diagram 3 shows a pass from the left halfback, faking a run around right end, to the center, who bumps the defensive center and cuts close to the line to his left.

Diagrams 4, 5, and 6 illustrate a fake around right end and reverse to the left. In Diagram 4, the left halfback receives the ball from the quarterback, and starts around right, gives the ball to the right halfback who goes around left end. The left halfback continues around right, hand-faking that he has the ball. The quarterback leads the interference. In Diagram 5, the left halfback fakes to give the ball to the right half and carries it around right end.

Diagram 6, a fake reverse and pass, shows the right halfback, after getting the ball from the left half on an around-right-end run, passing to the left end. The offensive right end goes down as a decoy.

Diagrams 7, 8 and 9 illustrate a sequence from the punt formation in which the ends go downfield to cover the punt. Two fakes to punt, passes to the right halfback in the flat (Diagram 7). In Diagram 8, the center bumps the defensive center then goes to the right, gets a forward pass from 2 and laterals to the right halfback. Diagram 9 shows 2 forward-passing to the center who has gone to the left.

Diagrams 10, 11, 12, 13 and 14 show a sequence from a single-wing formation, Diagram 10 an around-right end; Diagram 11 between center and right end; Diagram 12, a pass to the right end. The left end and right halfback are decoys. The quarterback laterals to the left halfback who passes to the right end in the flat.

In Diagram 13, the quarterback laterals to the halfback who passes to the left end cutting over to the right flat. The quarterback and halfback are decoys.

In Diagram 14, a reverse around left end, the left halfback receives the

(Continued on page 50)

The ATHLETIC JOURNAL

Nation-Wide Amateur Athletics

Vol. XXVIII June, 1948 No. 10

Published by
THE ATHLETIC JOURNAL PUBLISHING CO.
6858 Glenwood Avenue
Chicago 26, Illinois

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Founder

JOHN L. GRIFFITH
Publisher

Better Football Fields

EVERY year the report on football fatalities carries certain recommendations which ultimately lead in many of the instances to improvements. By means of rule changes, dangerous and harmful practices are made illegal. Through cooperation and constant experimentation by sporting manufacturers, better and safer equipment is ever being manufactured. Other recommendations, such as those relating to the playing facilities have been neglected in many instances.

It stands to reason that, if improvement is going to continue to be made in the reduction of injuries and fatalities, attention should be directed to the fields themselves. Some of the high school football fields of this country are a disgrace to the game of football. More often than not the poorest fields are found in large metropolitan areas rather than in the rural areas.

The notable success in reducing injuries through safer rules and better equipment, and the lack of improvement in the fields themselves would seem to indicate that compulsory action rather than voluntary action is the answer.

The various state associations hold the key to better fields. They are furthermore vitally interested in reduction of injuries due to their insurance programs. The state associations have performed an incomparable task in controlling amateurism, eligibility, and unsportsman-like conduct, simply by outlawing a school that fails to live up to the standards set. In the same vein state associations should deny membership to schools the facilities of which are not safe. By authorizing competition

upon or in dangerous facilities, they are inviting criticism.

Why do not state associations provide a corps of safety experts to examine the athletic facilities of member schools, make recommendations, and if said recommendations are not carried out, remove said school from the membership rolls until such time as the improvements have been made?

When safety is concerned, the American people apparently do not listen to recommendations but instead require compulsion. A good number of years ago the city of Chicago opened voluntary safety inspection lanes for automobiles. They were such quiet places in those days of voluntary inspection that they became favored places of employment for the politically faithful.

Sane and sensible rules, safe playing equipment and good facilities are required in an effort to reduce injuries. The first two have witnessed notable progress. The last has been left up to the schools, and with some exceptions little has been done. Which state will be the first to step in and do a job in regard to facilities?

The Intramural Golf Tournaments

LAST September the Athletic Journal carried the following announcement:

"Two organizations interested in golf have joined to aid you in promoting golf in your school. The first of these is the National Golf Foundation, a non-profit organization devoted to the advancement of golf, and the second is the ATHLETIC JOURNAL, which for twenty-seven years has been interested in all phases of school athletics and physical education and hopes to be able to encourage participation in this particular sport. Other notable national organizations have lent their assistance to encouraging participation in other sports, but so far little has been done in regard to intramural golf promotion. The tournaments are to be sponsored by the local school and are to be conducted locally."

This announcement was received with enthusiasm by many of our readers, and intramural directors at once sent in requests for the information and draw sheets supplied by this publication. Upon completion of the tournaments, medals were supplied the winners.

Although the tournament was first planned for the secondary schools, so many requests were received from intramural directors of colleges and universities that institutions of higher learning were included in the program.

As might be expected the greatest response was

(Continued on page 51)



HELP IN GETTING

SPLIT-SECOND TIMING

• It's a fact that the right equipment can help you get the timing and speed you want in a perfectly coached team.

Spalding shoes, made on a sprint last, give your team a faster running attack. Spalding football helmets are cool, light-in-weight, comfortable—constructed to “cushion” the sharpest impact.

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SPALDING



SETS THE PACE IN SPORTS

GOLF COACHING TIPS

By Les Bolstad

Golf Coach, University of Minnesota



IN THE MAY issue the problem of how to conduct golf lessons and to teach pattern learning was discussed. Rather than teach a multitude of details the coach should group several things together.

Exercises

Drills or exercises play a big part in developing a golfer, especially when it comes to giving assignments to beginners or in the handling of large groups.

For the beginner the coach must describe the move, prescribe the exercise, and ask him to make the maneuver daily outside of class periods.

Much may be accomplished without the supervisor being present. One day I walked into the boxing gymnasium. No supervisor was around but

each man in the room was busily engaged in doing something. That was my "tip-off." I found the same thing could be done with golf classes. Individual arm exercises, body-movement drills, hand-and-arm maneuvers to get to the top of the swing, short-swing movements with no wrist action, a Figure-8 exercise: These are some of the exercises which I have found appeal to golfers as training methods and which give them the "feel" of the swing.

The arms are the main sources of power in the swing. Arm exercises are, therefore, helpful. A club should be swung with the left arm alone, and then repeated with the right arm. Then one should be taken in each hand and swung simultaneously. The arms should make a well-defined movement.

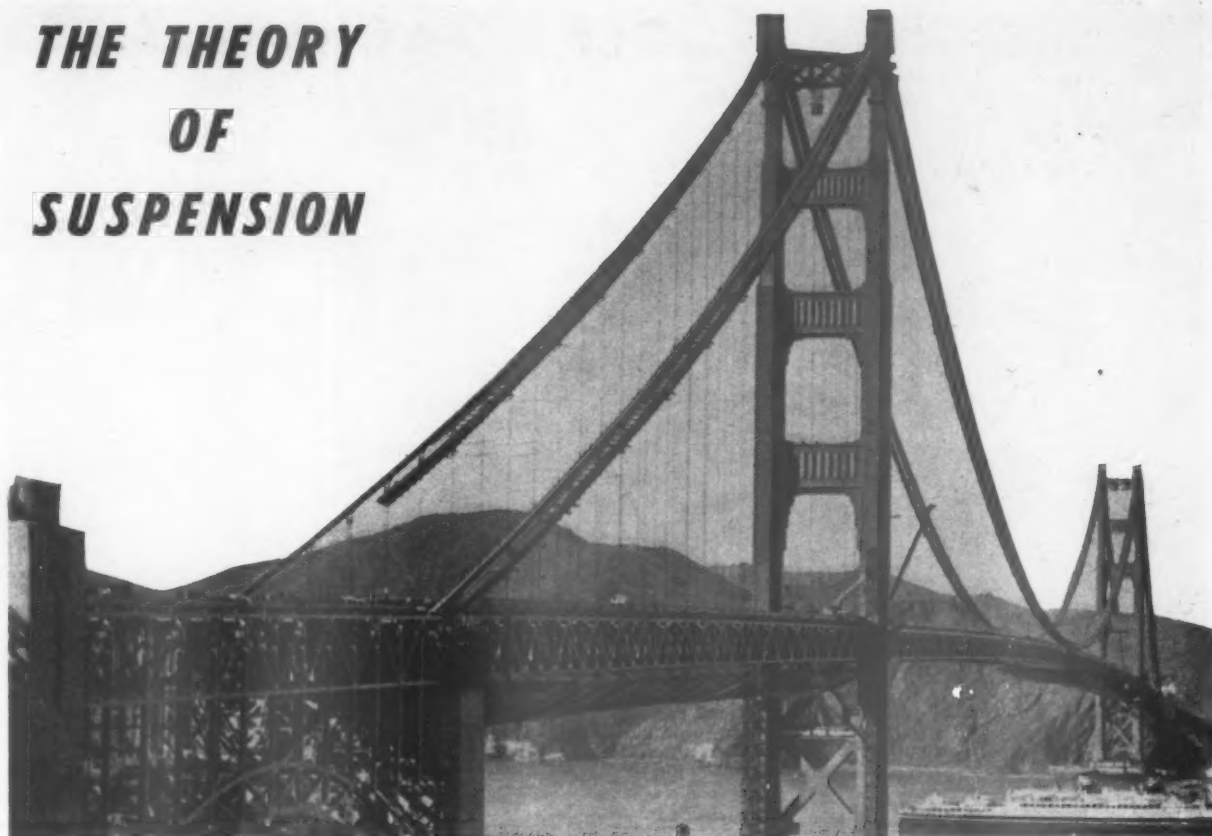
A short-swing exercise without



1. Both hands hold the putter leather from directly opposite sides. The right thumb is lined up with the left. Both thumbs are pointing down the shaft and right on top of it. The putter should be held lightly, just firm enough to control it. 2. The wrists should be kept free, the right elbow close to the body and the left pointing out toward the hole. 3. The knees are slightly bent and should be kept relaxed and comfortable. The head should be bent over the ball. The hands should be kept in close to the body. 4. The club head should be swung back fairly close to the ground. Both wrists and arms should be used. The head and body should be kept steady, the putter blade square with the line of the putt. 5. This shows a crisp, clean swing which is a combined action of arms and wrists. At the moment of impact the blade of the club is square with the putt-line and close to the ground. The hit should be crisp. The ball should not be pushed. These pictures are from the film strip, "Beginning Golf," produced by the National Golf Foundation.



THE THEORY OF SUSPENSION



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6. The follow-through. The momentum of the swing should carry the club. The wrists and arms should be out toward the hole until the momentum dies naturally. The head should not be raised. 7. A double exposure showing a

putting stroke which is a free, easy swing of the arms and wrists with the rest of the body held perfectly steady. This stroke should be practiced until the player has confidence that he will be able to keep the putter stroke steady.

wrist action, also, is beneficial. The club should be held up off the floor a foot or two, then swung back and forth in a brief swing which goes no higher than waist level at either end. If no wrist action is used, the golfer senses the carrying power of the arms and gets the feel of arm, hand, and club working together.

A take-off on this short swing is the Figure-8 exercise. Instead of the maneuver being direct, the club follows a Figure-8 pattern. The club is circled back outside the line of flight, looped around to the inside so that it swings from the inside out. The progression is continued to make a Figure 8. This exercise is one of the best. It corrects the prevalent tendency to make a swing with an outside loop which cuts across the line of flight. It gives a golfer the priceless sensation of "coming into" the ball from a position inside the direction line.

Golf Practice

The following are several suggestions for golf practice which have proved successful. The golfer with his bag of practice balls is a familiar figure. He gets more out of his practice, though, if he shoots at targets rather than just at the fairway in general. When two golfers are thoroughly familiar with each other's

swing they may be paired and watch one another. This pairing up was the method used by Byron Nelson and "Jug" McSpaden.

Gene Sarazen, famous professional player, had a practice technique. He used to start a foot from the hole with a putter and then gradually work back to longer putts, then to chip shots, pitch shots, irons and finally to woods. This gave him a complete, well-rounded approach. He was also an advocate of daily swinging a heavy club to strengthen his hands and arms.

Practice-swinging in front of a mirror is a method of golf shadow-boxing which helps a golfer build a swing. A golfer's complaint is often that when something is wrong he can't see himself to make the correction. Practice-swinging in front of a mirror enables him to see himself.

Daily handling of a club, if only for a few moments, is recommended. In

this way the muscles won't be injured when one goes out to play.

In the spring of the year, when most college competition is held, the collegiate golfer in the Northern schools has little time to get his game into shape. The wise thing for him is to make his short-game practice strenuous. Many college men hit too many practice balls in this period and neglect the short game where the greatest scoring gains might be made.

One of the very best ways to practice is to take several balls out on the course and hit them from different positions. In this way one gets mechanical proficiency and becomes adjusted to the course. On the course one has room to hit drives — one of the most important shots and one of the most underpracticed. Whenever irons are played, they should be hit from the rough instead of the fairway. All marks made on the greens should be repaired. Unfortunately this last method of practice is frowned upon by greens committees and can be rarely indulged in.

Significant Swing Developments

The modern golf laboratory, which includes an open-minded attitude, liberal discussion and a wide use of the high-speed camera, has produced a

(Continued on page 32)

LES BOLSTAD won the National Public Links Championship in 1926 and the Western Conference Championship in 1927 and '28. He has had a hand in the development of Patty Berg and Bev Hanson and is co-holder with Joe Coria of the National P.G.A. Best-ball record of 59 made in 1944.

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CHAMPIONS...



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WILL YOU FIND
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Ted Williams

Hit 32 Home Runs;
batted in 114 runs;
scored 125 runs; led
American League bat-
ting with .343.



Harry Walker

Led National League
hitting with .368.



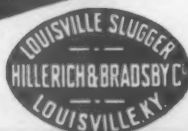
Johnny Mize

Tied Ralph Kiner for
most Home Runs (51)
in both leagues; bat-
ted in 138 runs; scor-
ed 137 runs.



Ralph Kiner

Tied Johnny Mize for
most Home Runs (51)
in both leagues; bat-
ted in 127 runs.



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A NEW APPROACH to Sports Lighting

by
F. D. Wyatt

Electrical Eng.
CHICAGO PARK DISTRICT

SOLDIER FIELD in Chicago is located between the loop district and Lake Michigan. The stadium is in the classic tradition and follows the general plans and lines of the ancient Greek and Roman stadia. The field it encloses is 300 feet wide from wall to wall, and 887 feet long. Outside, over-all dimensions are 680x1179 feet. The structure is of concrete, faced with stone.

First steps preparatory to construction of Soldier Field were taken in 1920 when filling operations were started to reclaim the area between Fourteenth and Sixteenth Streets just south of Field Museum in what is now Burnham Park. The land was part of the bottom of Lake Michigan and was under fifteen feet of water. Filling was completed and work begun on the stadium in the latter part of 1922. For the foundations it was necessary to drive 10,000 piles to an average depth of 62½ feet.

The total cost of the original horseshoe was about eight million dollars. More recent additions and the administration building, which is really an integral part of the stadium, raised the total cost of Soldier Field to ten million.

With the completion of this administration building for the consolidated Chicago Park District in 1939, closing

what had been the open north end of the stadium, the actual seating capacity (on a basis of eighteen inches per person) reached 77,112. With temporary seats, 101,180 may be accommodated without crowding. If part of the arena is used for spectators, the capacity is well over 200,000. In fact, at least two hundred thousand attended the Eucharistic Congress on June 21, 1926 before the stadium was completed, and 110,000 witnessed the dedication football game in the fall of that year when Army and Navy played to a 21-21 tie.

Soldier Field is used for a great variety of events which include Easter sunrise services, American Legion shows, football games, rodeos, boxing events (the Dempsey-Tunney fight with its famous fourteen count) grand operas, midjet-car races, religious

pageants and speeches such as President Roosevelt's in October, 1944 and President Truman's in April, 1946.

With such a great variety of events the lighting facilities must be both flexible and versatile to provide for specialized lighting in any part of the field.

In the fall of 1945, a seven-year contract was signed with the Chicago Rockets professional football team for use of Soldier Field for night games. In addition, the all-star football game is played in Soldier Field during the month of August. Both require better lighting than was formerly used. Intensive study was made of the problem of improving the lighting and the following plans were suggested:

1. Install a row of poles around the side arena wall to light the arena space which is 300 feet wide by 887 feet long. Satisfactory lighting could be secured by this method, but the poles would be a source of interference and annoyance to the spectators, and a rather difficult problem was involved in securing an adequate foundation for the poles.

2. Install high lattice steel towers along the outside periphery of the stadium. Due to the great over-all width of the structure (680 feet) these towers would be very high and massive and would require lighting units

The lighting system now in operation at Soldier Field was installed last summer. Because of the many favorable comments on the lighting, particularly from coaches who attended the All-Star game last August, we are presenting this detailed study of Soldier Field which was the Merit Award winning entry at the second International Lighting Exposition and Conference.



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IN SPORTS EQUIPMENT

ANOTHER WILSON HONOR

In recognition of its high standing in American sports, Wilson Athletic Equipment has been designated by the United States Olympic Committee as the

OFFICIAL EQUIPMENT
for the U. S. teams participating in the
OLYMPIC GAMES
at London, England, 1948

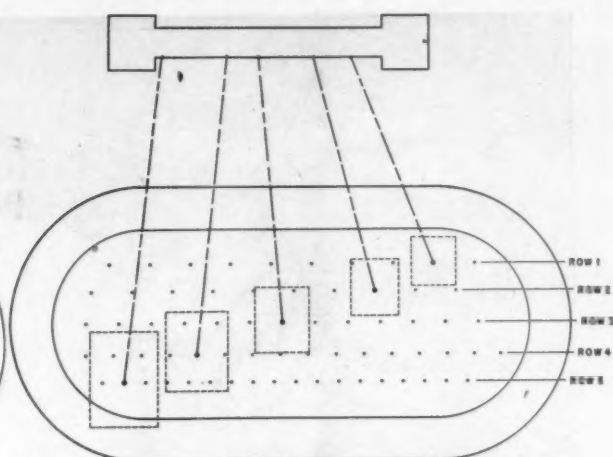
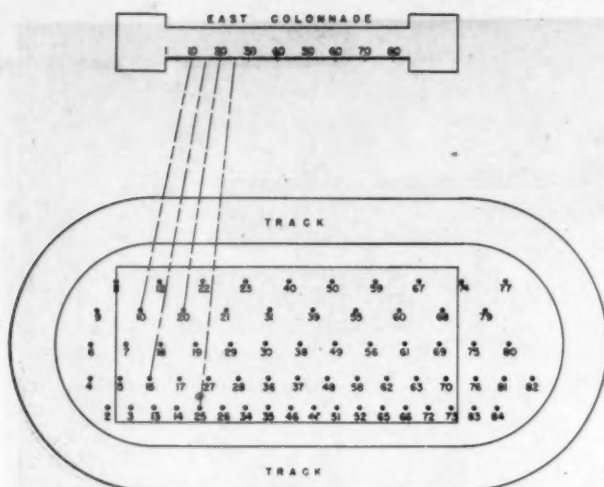


This appointment is further confirmation of your good judgment when you choose sports equipment bearing the name Wilson. Specify Wilson and *know* you are getting the finest.

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Wilson

THE LAST WORD IN SPORTS EQUIPMENT



Plan view of aiming chart (left); Unit patterns (above)

with a very long throw and accuracy of control in order to place the light on the required part of the arena and to eliminate glare in the eyes of the spectators. This plan was eliminated mainly because the appearance of the towers would not be consistent with the classic design of the stadium.

3. Install lighting units on top of the colonnades. The necessary mounting height above the field for conventional sport-lighting units with adequate glare control, based on thirty degrees separation between line of sight and glare source, is 262 feet. The colonnade roof is one hundred feet above the field, necessitating a 162-foot structure above the colonnades. This plan was eliminated both on account of cost, appearance, and the very high wind loads which would, of necessity, have to be carried down through the colonnade structure.

4. Mounting lighting units on the top parapet wall of the colonnades. These units would be within thirteen degrees of the normal line of sight of the spectators in the first row. Thirty degrees is usually considered the minimum between the line of sight and a light source to avoid objectional glare in the spectators' eyes. For football lighting a thirty-degree angle would require very tall poles or towers which would be expensive to install and maintain. The larger the angle, the greater the horizontal light component in relation to the vertical. The horizontal light is of little use in viewing vertical surfaces. Therefore conventional sports lighting installations are based on a 15-degree angle which is a compromise between good vertical light and glare.

A fault of each of the first three plans was the high maintenance cost of lighting fixtures on high structures, and the great amount of time which

would be required to reset lighting patterns for a new event. The problem, when resolved to its simplest terms, was to secure the greatest amount of useful light for the least wind load.

The greatest utilization of light would be obtained from a unit behind and just above the spectators, but such an installation, because of glare, would allow the seating of spectators on one side of the field only. If glare is controlled and good fixture utilization maintained, there are many advantages in mounting units below the

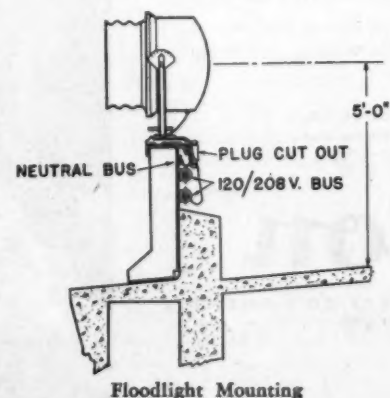
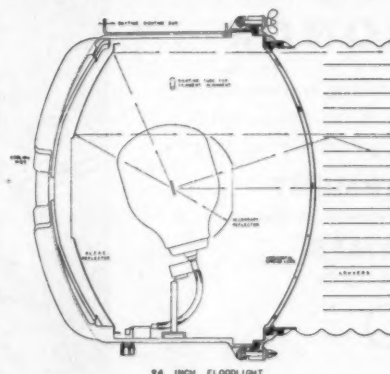
15-degree angle. Maintenance and lamp setting would be greatly facilitated by the lower mounting height. It was also found that the cost of the structures eliminated by this construction would be used to better advantage in securing units with very accurate light control. The linear space available for mounting was limited to 260 feet on each side. From the standpoint of appearance, it was desired that the light units should be restricted to a single row. It was important, therefore, to secure the maximum amount of light per linear foot of mounting space.

After a study of all of the factors involved, it was decided to follow the plan listed as Number 4 and to use a twenty-four-inch totally enclosed airport-type searchlight.

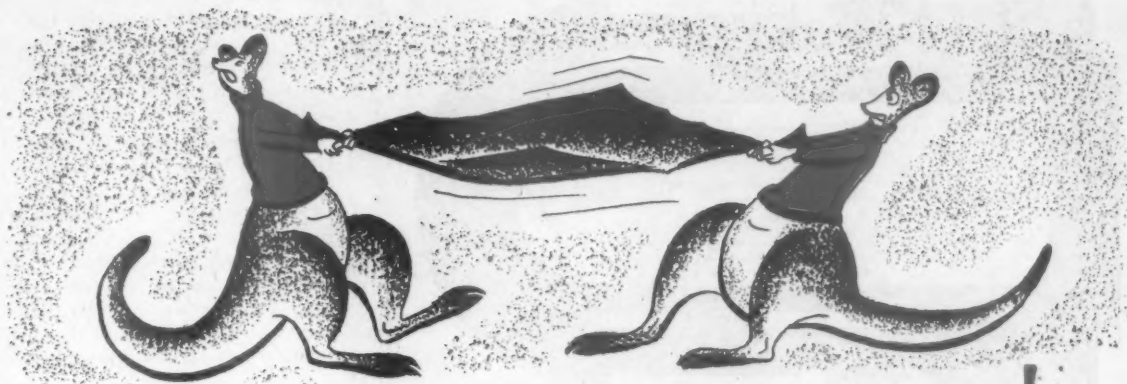
The available space of 260 feet was divided into eighty-five equal positions of three feet, and three-eighths inches which provide ample space for rotating the units for cleaning and relamping. The five center positions were reserved for spot lights.

The lighting unit, as modified, consists of a cast-aluminum housing, with a twenty-four inch Alzac reflector having a focal length of nine inches and a front reflector to reduce glass brightness at wide angles from the center line and to improve light utilization. External louvers are used to improve the light pattern, to reduce glass brightness, and to increase sharpness of top cut-off.

Heretofore, the maximum size lamp used in a totally enclosed unit for intermittent service was three thousand watts. Heat runs were made on an airport searchlight with both three thousand- and five thousand-watt lamps in continuous service, and from the test information secured, changes in design to secure a satisfactory oper-



Floodlight Mounting



Just enough S-T-R-E-T-C-H!

All leather, including kangaroo, will stretch. When this stretch takes place after the shoe is made and worn, the shoe no longer has that perfect fit so essential to athletic shoes.

The SPOT-BILT organization, after many years of study and experiment, have developed an exclusive process for removing about 75% of the stretch in leather before it is made into athletic shoes. This superfluous stretch is removed without impairing the tensile strength of the leather. Just enough "give" is left in the leather to make it pliable and soft on the foot, but not enough to cause any variation in snug fit throughout the life of the shoe, *always providing that, when new, the shoe is properly fitted to the athlete's foot.*

Investigation and research have shown that troubles laid to stretching are almost entirely due to fitting an athlete with shoes that are too large. Any shoe when worn will conform to the foot. A shoe that is too large will become sloppy, lose its shape and give the appearance of having stretched. When such a shoe is checked on the last on which it was built it will fit perfectly, thus proving that improper fitting, and not stretching, has caused the trouble.

This exclusive pre-stretching process assuring perfect fit throughout the life of the shoe, is just another example of the painstaking care and research back of every SPOT-BILT athletic shoe.

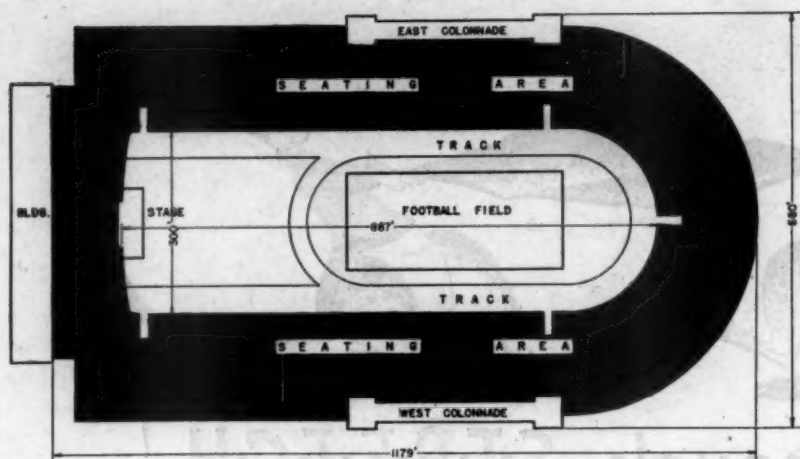
This is the sixth in a series of informative advertisements



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for JUNE, 1948



SOLDIER FIELD

ation temperature were made as follows:

1. A hole was cut into the center of both the rear main reflector and front secondary reflector to eliminate continuous redirection of light through the filament of the lamp. A further advantage of the hole in the front reflector was to secure a more uniform temperature on the front lens.

2. An Alzac reflector was used in place of glass to increase heat dissipation.

3. All gasket material was changed to high temperature compounds.

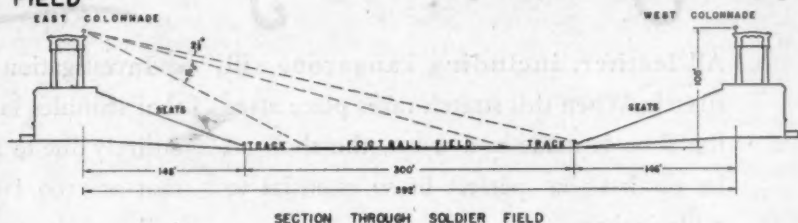
4. Fins were added to the rear of the housing to increase heat dissipation.

5. The entire housing was painted, inside and outside, with a heat resisting black paint to increase "black body" absorption and radiation.

Laboratory tests were made in still air at twenty-two degrees C. ambient with a five thousand-watt lamp at rating, the conditions being more severe than actual operation. As a result of these changes the lamp envelope temperature for continuous service dropped from 680 degrees C. at the hottest point to below 480 degrees C. which was the maximum recommended operating temperature. After one season's operation, there were no lamp failures or indication of excessive temperature.

Insofar as these lighting units are operated consistently below the horizontal, the lamps are inclined fifteen degrees so that in use they are essentially in a vertical position. The lamp used is a 5000-watt T-64 mogul bipost and has an output of 164,000 lumens at 75 hours life. A 3000-watt lamp with an output of 69,000 lumens at 500 hours life and identical dimensions may also be used.

Sighting tubes through the housing



SECTION THROUGH SOLDIER FIELD

are provided for accurate positioning of the lamp filament. In addition a filament image box is being provided which can be placed on the front of the housing for greater accuracy in checking lamp positioning.

The unit is provided with a rifle sight for day-time aiming to give concentrated spot lighting and is also equipped with both vertical and horizontal vernier-type degree markings to permit accurate setting for area lighting.

A typical setting pattern for football is shown by the "Plan View of Aiming Chart" in which the football field only is lighted. This chart shows the aiming of all units from one side of the field. The corresponding units on the opposite side are aimed in a similar manner. The lighting pattern for five units is superimposed on the playing field to indicate the extent of the overlap from adjacent units. A data sheet, not shown in this article, gives the required information for the vertical and horizontal angle settings for all units from one side of the field to secure the coverage indicated in the aiming chart. Identical settings are used for the opposite side of the field. Therefore, this one data sheet gives full information for making a complete lighting set-up for the field. It may be of interest to mention that a complete calculation and plot of lamp settings can be made in eight man-

hours, and that the lamp aiming can be accomplished in twelve man-hours. This is of great importance for Soldier Field, where entirely different types of shows may appear in the field one or two days apart.

The power supply on each side of the field comes in through voltage regulators with a plus or minus range of 20 per cent, 2400-volt Delta primary cables supply four 120-KVA transformers banks which each feed a 120/209-volt three phase, four-wire bus to which twenty individual lamps are connected. Identical equipment is installed on the opposite colonnade.

Due to this flexible arrangement, which is remotely controlled from one center point, any desired number of lamps may be directed to any por-

tion of the field and may be cut in or out at will. Thus any number of lamps from 1 to 20 in eight groups may be pre-set and controlled from the central switchboard.

The installation was designed to deliver seventy-five foot-candles on a vertical surface in the entire football playing field. By making use of the switching arrangement and voltage control facilities, any value of illumination up to seventy-five foot-candles can be secured on the football field. Correspondingly higher levels can be provided for smaller areas.

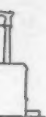
Part of the former lighting installation included fifty-eight 1000-watt floods mounted in the front wall of each colonnade. These were used for general illumination and to contribute some light for a football high in the air and also general illumination of the stands. In addition, ten of the new units on each side were directed horizontally to provide further brightness for a high-kicked football. This illumination was adequate. The glass brightness, viewed from the spectator-stands of the 1000-watt units was two to three times higher by measurement than the new 5000-watt units. This difference in brightness can be readily noted in the night photograph.

During the past season a series of midget car races were run at Soldier's Field which required a brightly-lighted track and a high level of illumina-

(Continued on page 36)

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RNAL

*More athletes have worn
BIKE SUPPORTERS
than any other brand!*

THE LEADER FOR YEARS!

Athletes themselves have helped bring about many of the major improvements for which Bike is famous.

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See your athletic goods supplier now—get the utmost in comfort and protection by choosing from his line of Bike Supports, the best by far!



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Incorporating "Interpretations of 1948 Basket-
ball Rules," and articles on "Correct Condition-
ing" and "Taping Techniques," for coaches, ath-
letic directors, trainers, etc. Write Department
K8-6—it will be sent to you free.



THE FAMOUS BIKE No. 59 SUPPORTER

Fullweight, woven elastic mesh
of soft cotton and rayon. Special
construction sheds water, dries
quickly, perfect for swimming. Pouch
allows full longitudinal stretch, com-
fortable lateral stretch. 1 1/4" elastic
band, 12 1/2" leg bands.

THE BIKE WEB COMPANY

2500 S. DEARBORN ST. CHICAGO 16

BALL POSSESSION IN BASKETBALL

By Wesley M. Staton and G. Lawrence Rarick

Associate Professors of Education, Boston University

BASKETBALL, as it is played today in American colleges and universities, has become a highly scientific game. Most successful coaches have become astute students of the game and are continually searching for new techniques and tactics which will enable them to make best use of the players on hand. Although coaches vary their style of play with the material, each coach has a tendency to lean basically toward the game tactics which have given him the best results. Many coaches favor the fast break; others successfully employ a slow-breaking offense. Some advocate strict ball possession with shots being taken only when a basket seems highly probable, thereby denying the opponent the ball and keeping his scoring opportunities at a minimum. The latter practice is commonly employed during the final minutes of a close game when ball possession is of paramount importance. Many coaches concentrate upon shooting drills in the belief that a reasonably accurate team which shoots often will be more successful than a team which concentrates upon a passing game striving for close-in shots.

Regardless of conflicting points of view, many coaches consider the ability of a team to retain possession of the ball a prerequisite for successful team performance. This is demonstrated by the time and attention given to passing and dribbling drills during the early part of the season. Exactly how closely ball possession is associated with winning team performance is difficult, if not almost impossible to determine. Certainly a team cannot score until it gains possession of the ball and yet each time it attempts a basket it risks loss of the ball.

While it is recognized that there are many factors which may be of greater importance in the winning of basketball games than that of ball possession alone, it was felt that an analysis of this one factor, as a partial influence upon winning team performance, might prove of value. The study reported here is concerned primarily with the influence ball possession may have upon winning performance as well as upon team scoring ability.

The study is based upon an analysis of data taken from twenty-six intercollegiate basketball games played in the Boston Arena and Boston Garden during the 1946-47 basketball season. Twenty-five different teams participated in these

games. Of the colleges and universities represented, eighteen were from the East Coast, four were from the Middle West, two were from the South, and one was from the Far West. In almost every case they were among the better teams of their respective sections of the country.

Ball possession time was measured by synchronized stop watches, each timing to the nearest tenth of a second and recording time cumulatively. One watch was assigned to time each team throughout a given game. The watches were allowed to run only while the team timed by that watch was in possession of the ball. Ball possession was considered to be that condition existing when a player or players of the same team maintained full and complete control of the ball. Watches were immediately stopped when loss of the ball was evident or when the game entered a neutral state. Readings were taken from the watches at the end of each half and time totals were recorded to the nearest full second. In addition, notations were made when, in the judgment of the observers, a team lost possession of the ball through bad passing. A bad pass was considered to occur when a player in full possession of the ball threw it at or toward a team member in such a manner that it was virtually impossible for the intended receiver to catch the ball before it went out-of-bounds or into the hands of an opponent.

The results of this study show that in seventeen of the twenty-six games observed, or in 65.3 per cent of the cases, the winning team retained possession of the ball for a greater period of time than did the loser, although in many cases the difference was small. It should be kept in mind that these figures may be misleading since in many instances the games were close and the winning team practiced "freezing" the ball, deliberately maintaining possession in order to protect its small lead during the closing minutes of the game.

To compensate for the possible influence of end-of-game stalling, ball possession time and points scored were considered in terms of each half of the twenty-six games played. Under these conditions the team scoring the most points showed a superiority of ball possession in twenty-eight of the fifty halves. This represented only 56 per cent of the instances. The apparent discrepancy between the twenty-six games

and the fifty separate halves occurred as a result of half-time scores being equal on two occasions. When only half-time scores were considered, the team leading at the intermission held the ball the greater part of the time in only thirteen of twenty-five instances or 52 per cent of the cases. It should be noted that as the factor of end-of-game stalling is eliminated, ball possession superiority assumes an almost insignificant role.

This is further emphasized when the Pearson Product moment correlation is computed; first, between ball possession time expressed in seconds and points scored per game, and second, between ball possession time and field goals scored per game. In the first case the correlation was .098 and in the second .125. The second computation was run with the realization that points scored by free throws would tend to distort the results. These low correlations indicate that no significant relationship exists between the scoring ability of the teams included in this study and the time which they retained possession of the ball. Although the data was taken from a comparatively small sample of college teams, it places doubt upon the popular belief that ball possession in itself has a decided influence upon winning performance or upon team scoring ability, particularly when the teams are evenly matched. When only those games were considered in which there was a difference of ten or more points in the final score, the winning teams held possession of the ball for the major part of the game in twelve of seventeen games or in 70.5 per cent of the cases. On the other hand, in one game there was a point difference of forty-two points with the losing team holding the ball the greater part of the game. It should be kept in mind that under the rules now in force, the team scoring a field goal is penalized by loss of the ball. This rule in itself would tend to eliminate any relationship which might exist between ball possession time and team scoring.

An examination of the record kept of the number of bad passes committed by each team shows that in fourteen of the twenty-five games observed or in 56 per cent of the cases, the team which most frequently made bad passes came out the loser. The fact that the number of bad passes had little bearing on the outcome of the games is further amplified by the data which showed that while the winning teams had an average of 7.6 bad passes per game, the losers averaged only slightly more, namely 8.6 bad passes.

In conclusion, the data would seem to indicate that for the teams studied *neither ball possession nor bad passing significantly influenced the successful performance of these teams.* The games in which ball possession apparently played the greatest role were those in which the dif-

(Continued on page 50)

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have the finest basketball
floor at less cost!

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1. ADAMS STATE COLLEGE
Alamosa, Colorado, June 14-19
Neal Mehring, Director
Staff: Fritz Crisler, Frank Leghy, Clair Bee, Hank Iba, Frank Cramer
See advertisement page 66 April issue

2. COLORADO HIGH SCHOOL COACHES ASSOCIATION
1532 Madison, Denver, Colorado, August 23-28
N. C. Morris and Don R. DesCombes, Directors
Staff: Jeff Cravath, Bowden Wyatt, Ellison Ketchum, L. C. Butler and High School Coaches
See advertisement page 48 May issue

3. COLORADO, UNIVERSITY OF
Boulder, Colorado, June 17-July 23, July 27-August 28
Harry G. Carlson, Director
Staff: Bernard Hughes, Frank Potts, Harold Meyers, Frank Prentup, Dallas Ward, Frosty Cox, Roland Balch

4. UTAH HIGH SCHOOL COACHES ASSOCIATION
Salt Lake City, Utah, August 9-14
H. B. Linford, Director

5. UTAH STATE AGRICULTURAL COLLEGE
Logan, Utah, June 7-11
E. L. Romney, Director
Staff: Fritz Crisler, Jack Gardner
See advertisement page 49 May issue

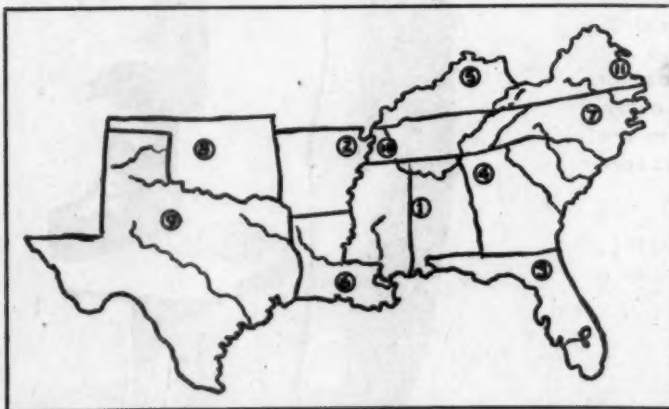
6. WASHINGTON STATE H S. COACHES ASSOC.
University of Washington, Seattle, Washington
Basketball August 23-25
Football, August 25-28
Bill Nollan, Director
Staff: Fritz Crisler, Henry Iba, Frank Cramer
See advertisement page 46

7. UNIVERSITY OF WYOMING
Laramie, Wyoming, August 9-13
Glenn Jacoby, Director
Staff: Murray Warmuth, Alvin "Doggie" Julian
See advertisement page 42

8. MONTANA UNIVERSITY COACHING SCHOOL
Missoula, Montana, July 26-30 (Not shown on map)
Douglas A. Fessenden, Director
Staff: Lynn Waldorf, Adolph Rupp

9. NEW MEXICO COACHES AND OFFICIALS ASSOC.
Albuquerque, New Mexico, August 8-14 (Not shown on map)
Elwood Romney, Director
Staff: Bernie Bierman, Ray Eliot, Ozzie Cowles, Vadal Peterson, Frank Cramer
See advertisement page 50

10. IDAHO HIGH SCHOOL COACHES ASSOCIATION
Boise, Idaho, August 9-13 (Not shown on map)
George L. Hays, Director
Staff: "Dixie" Howell, All-Star football game



IN THE SOUTH

1. ALABAMA, UNIVERSITY OF
Tuscaloosa, Alabama, August 25-28
H. D. Drew, Director
Staff: H. D. Drew, Floyd Burdette and University of Alabama Staff

2. ARKANSAS STATE COLLEGE
State College, Arkansas (Jonesboro) June 17-19
J. A. Tomlinson, Director
Staff: Wallace Butts, Forrest England, J. A. Tomlinson

3. FLORIDA, UNIVERSITY OF
Gainesville, Florida

4. GEORGIA COACHING CLINIC
Atlanta, Georgia, August 12-19
Dwight Keith, Director
Staff: Jim Tatum, Red Sanders, George Barclay and High School Coaches

5. KENTUCKY, UNIVERSITY OF
Lexington, Kentucky
Bernie Shively, Director

6. LOUISIANA HIGH SCHOOL COACHES ASSN.
Southwestern Louisiana Institute, Lafayette, La. August 11-13
Woodrow Turner, Director
Staff: Wally Butts, "Dutch" Meyer, Ed Diddle, R. L. Brown, G. Mitchell, Frank Cramer, G. Brown
See advertisement page 48 May issue

7. NORTH CAROLINA, UNIVERSITY OF
Chapel Hill, North Carolina, August 9-14
Tom Scott, Director
Staff: Carl Snively, Tom Scott, R. A. Fetzer, Bunn Hearn, Dick Samerson, Richard White

8. OKLAHOMA COACHES ASSOCIATION
Skein Hotel, Oklahoma City, Okla. August 16-20
Clarence Breithaupt, Director
Staff: Carl Snively, Howie Odell

9. TEXAS COACHES ASSOCIATION
Abilene, Texas, August 2-6
L. W. McConachie, Director
Staff: Bobby Dodd, Matty Bell, H. C. Gilstrap, Clair Bee, Jack Grey, Clyde Littlefield
See advertisement page 52 May issue

10. UNION UNIVERSITY CLINIC
Jackson, Tennessee

11. WILLIAM AND MARY COACHING SCHOOL
Williamsburg, Virginia
Marty Baldwin, Director

12. FLORIDA A. & M.
Tallahassee, Florida, June 21-26 (Not shown on map)
A. S. Gaither, Director
Staff: A. R. Jefferson, B. T. Harvey, Jake Gaither, "Bear" Wolf, A. W. Mumford, R. P. Griffin
See advertisement page 54 May issue

IN THE EAST



1.

BETHANY COLLEGE

Bethany, West Virginia, August 16-20
John Knight, Director
Staff: Harold Drew, Don Faurot
See advertisement page 40

2.

COLBY COLLEGE

Waterville, Maine, June 10-12
E. W. Millett, Director
Staff: Ray Eliot, Nelson Nitchman, Howard Hobson

3.

CONNECTICUT, UNIVERSITY OF

Storrs, Conn., August 23-27
George Van Bibber, Director
Staff: Norman Daniels, Bob Higgins, Lou Little, Alvin "Doggie" Julian, Joe Bedenk, Bill Jeffrey

4.

KINGS POINT MARITIME ACADEMY

Kings Point, L. I., New York

5.

NEW YORK BASKETBALL COACHING SCHOOL

Hancock, New York, August 19-21
John Sipas, Director
Staff: Rayner Greene, John Lawther, Whitey Anderson
See advertisement page 53 May issue

6.

PENNSYLVANIA STATE COLLEGE

State College Pennsylvania, June 8-Sept. 18.
M. R. Traube, Director
Staff: John Lawther, Bob Higgins, Joe Bedenk, Chick Warner and others.
See advertisement page 70 April issue

7.

WEST VIRGINIA, UNIVERSITY OF

Morgantown, West Virginia, June 3-July 14.
F. J. Halter, Director
Staff: DeGroot, Lee Patton, Prof. Henry Stone, Steve Harrick, Art Smith
See advertisement page 60 April issue

9.

NEW YORK STATE COACHING SCHOOL

Hamilton College, Clinton, New York, August 23-28
Philip J. Hammes, Director
Staff: Robert A. Higgins, Herman Hickman, Leonard Watters, Karl Lawrence, "Doggie" Julian, John Skvorak, Frank Gardner
See advertisement page 50 May issue

8.

EASTERN PENNSYLVANIA SCHOLASTIC COACHING CLINIC

State Teachers College, East Stroudsburg, Pa., June 21-25
Marty Baldwin, Director
Staff: Bobby Dodd, Biggie Munn, Herman Hickman, Alvin "Doggie" Julian, Charley Gelbert.
See advertisement page 44 May issue

10.

VIRGINIA STATE COLLEGE

Petersburg, Virginia, July 5-10
H. R. Jefferson, Director
Staff: Carl Snaveley, Rust Murphy, John Lawther, Gus Tebell

IN THE MIDDLE WEST

1.

ILLINOIS HIGH SCHOOL COACHING CLINIC

Urbana, Illinois, August 16-21
Ray Holmes, Director
Staff: Harry Stuhldreher, University of Illinois football staff, Howard Hobson and others
See advertisement page 44

2.

INDIANA BASKETBALL COACHING SCHOOL

Berry Bowl, Logansport, Indiana, August 12-14
Cliff Wells, Director
Staff: E. N. Case, Paul Hickman, Marion Crawley, McCoy Tarry, C. R. McConnell, Cliff Wells, George Bender
See advertisement page 42 May issue

3.

IOWA HIGH SCHOOL COACHING SCHOOL

Templar Park, Spirit Lake, Iowa

4.

KALAMAZOO COLLEGE

Kalamazoo, Michigan, June 14-16
Bob Nulf, Director
Staff: Paul Brown, Cleveland Browns Staff
See advertisement page 34 April issue

5.

KANSAS STATE HIGH SCHOOL ACTIVITIES ASSN.

Wichita, Kansas, August 16-20
E. A. Thomas, Director
Staff: H. O. "Fritz" Crisler, Jack Gardner, and others

6.

NORTHERN MICHIGAN COLLEGE OF EDUCATION

Marquette, Michigan, August 9-13
C. V. Money, Director
Staff: H. O. "Fritz" Crisler, P. D. "Tony" Hinkle

7.

SOUTHERN MICHIGAN COACHING SCHOOL

Central Michigan College, Mt. Pleasant, August 16-20
D. P. Rose, Director
Staff: H. O. "Fritz" Crisler, "Ozzie" Cowles

8.

MISSOURI COACHING SCHOOL

University of Missouri, Columbia, Missouri, 10.11. 22-24
Don Faurot, Director
Staff: Ray Eliot, Don Faurot, John Simmons, Hank Iba, Wilbur Stalcup, Tom Batts, U. J. DeVictor, Dr. Jack Matthews.

10.

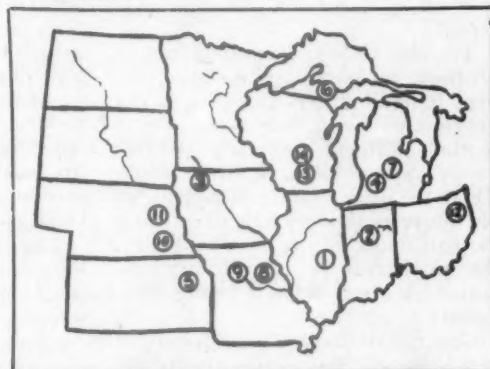
NEBRASKA HIGH SCHOOL ACTIVITIES ASSN.

Lincoln, Nebraska
O. L. Webb, Director

11.

NEBRASKA, UNIVERSITY OF

Lincoln, Nebraska Summer School
Louis Means, Director
Staff, University of Nebraska Staff



12.

OHIO H. S. FOOTBALL COACHING SCHOOL

Canton, Ohio, August 9-14
J. B. Robinson, Director
Staff: Don Faurot, Bobby Dodds, Bob Higgins, Herman Hickman, Paul Brown, Jim Aiken, Jack Blott, Ben Osterbaan, Sid Gillman, Art Valpey.
See advertisement page 36 May issue

13.

WISCONSIN ASSN. COACHING SCHOOL

Madison, Wisconsin

14.

WISCONSIN, UNIVERSITY OF

Madison, Wisconsin, June 25-August 20
John Guy Fowlkes, Director
Staff Arthur Mansfield, Walter Bokke
See advertisement page 61 March issue

15.

FREMONT COACHING SCHOOL

Fremont, Michigan, August 23-25
L. J. Gottschall, Director
Staff: Clarence "Biggie" Munn, Forrest Evashevski, Jack Heppinstall, Tony Hinkle, Herbert "Buck" Read, Floyd Baker, William Perigo, William Robinson
See advertisement page 59 May issue

16.

MILWAUKEE STATE TEACHERS COLLEGE

Milwaukee, Wisconsin, August 2-5
Armin Krofft, Director
Staff: Bernie Bierman, Lisle Blackburn, Dave MacMillan, Clifford Fagan
See advertisement page 42

Coaching Tips for Six-Man Football

By M. L. Rafferty, Jr.

Athletic Director, Trona, California, High School

"THOU SHALT not coach six-man football as though it were eleven-man football."

This is the first and great commandment, and the second is like unto it:

"Thou shalt coach the individual rather than the group."

The first person on whom a six-man football coach should concentrate is he, himself. He must rid himself of the notion that the six-man game is some kind of an inferior, "sissy," carbon-copy of the eleven-man sport, because it uses only about half as many men. He must root out of his own mind the false syllogism which says, "Six-man football arose out of the eleven-man game; eleven-man football is based on certain fundamental precepts; therefore, six-man football is based on the same precepts."

The new game is a mutation, not an offshoot. In its basic philosophy, six-man football differs from its parent as widely as, in turn, eleven-man football differed from old "Grandpappy" Soccer back in the 1860's. Then, the difference lay in such a simple but revolutionary idea as catching the ball and running with it. Today, the difference is superficially less noticeable but actually more profound.

Eleven-man football is committed to a relatively slow series of ground-devouring offensive plays. The genius of great coaches of the past has been their ability to co-ordinate certain basic plays, whether passing or running in nature, into a consistent pattern of forward movement which eventually result in scores. Few plays were designed to score from any part of the field or equally from a team's own ten-yard line or from its opponent's ten. Instead, one play was designed to "set up" another, which in turn drew in the opposing secondary so that still a third could succeed in turning the enemy flank or in shaking a fast back clear on a pass reception. It was this factor of patient chess-playing with human pawns that made the reputations of such grid masters as Rockne, Warner, and Yost.

This evolutionary trend did not completely rule out the so-called

"scoring play", of course. All pass plays were, theoretically, designed to score every time they were used, but gradually even the forward pass was subordinated into one more cog in the complicated machine which the coaches of the nation were erecting.

Specifically, the six-man coach must: (1) Develop precision blockers. (2) Concentrate on man-to-man tackling (3) Drill on ball-handling and the lateral pass. (4) Devote considerable time to ball-hawking and fumble recoveries; and (5) Coach players to expect the *unexpected*.

Blocking and tackling of course, are basic. Everybody emphasizes and coaches them as a matter of course, but even the so-called fundamentals are not the same in six-man as they are in the eleven-man game. In the latter, when a lineman missed a tackle on a hard-driving halfback, he could usually count on George making it for him—George being one of the seven toiling, sweating, flailing ends, tackles, guards, etc. who clutter up the older game. Piling on and grab-tackling were stressed, to the subsequent deterioration of the fine art of clean tackling.

The same thing held true of blocking. There is nothing better than a crisp, well-thrown downfield block, where one blocker drives one opponent into the turf. It is difficult, however, to get a clear shot at a man in eleven-man football. Too many cooks are spoiling the broth. Take an end run; sometimes four men are running interference for the ball-carrier. This massed interference does not have to know much about scientific blocking. All it has to do is run over the hapless end who tries to stand up to them. Weight and concentrated numbers are substituted for skill.

In six-man football, the players must be able to block and tackle by themselves. There are only about half as many George's around and each one has his hands full with his own assignment. If a player misses his block on an end run, the runner is tackled, and tackled hard. What is worse, with the pawing, scrambling, surplus players removed from the game, a missed block or tackle stands out like a sore thumb. Even the no-

M. L. Rafferty Jr. has been notably successful as a coach of six-man. His teams at Trona have been undefeated since 1941 and untied since 1942. His article, *Defensive Play in Six-Man*, appeared in our September, 1947 issue, and his article on *offensive tactics* will appear in our September, 1948 issue.

vice in the bleachers knows that Joe Doakes has missed his block, or that Erwin Smith had his hands on that back and let him get away. Unless the blockers have been coached to rely on themselves and only on themselves to clear the way, they are going to look foolish on numerous occasions. This goes double for tacklers. A missed block means, at worst, a yardage loss. A missed tackle, in the six-man game, often means a touchdown.

Six-man coaches should make the fundamentals *man-to-man*. There is little opportunity for high-lowing, mouse-trapping, or the other little devices so dear to the heart of the eleven-man coach. The six-man game is a man-to-man contest. If one of the men is inferior in size to the opponent whom he is assigned to take, the coach must help him make up the difference in physical equipment by thoroughly teaching him the various techniques with which a smaller man can stop a larger man. This means low, driving, knee-high tackling. It means hard, fast body-blocking, with arms and legs swinging in perfect rhythm at the moment of impact and a twisting roll applied immediately following contact. A shoulder blocker must get under the defensive man's guard, crouch as he hits, straighten up immediately after contact, and drive his man back and out of the play with short, choppy steps. All this means *fundamentals*, stripped of all plumage and borrowed finery. It means that brush-blocking, check-blocking, arm-tackling, and all the techniques which have gradually encrusted the eleven-man game must be forgotten. In six-man football they will not work!

As far as ball-handling is concerned, practice and drill are everything. I line up the boys in two parallel lines, six yards apart and have them face each other. At the signal, each lead man runs straight ahead.

O O O O O O O

X X X X X X X X

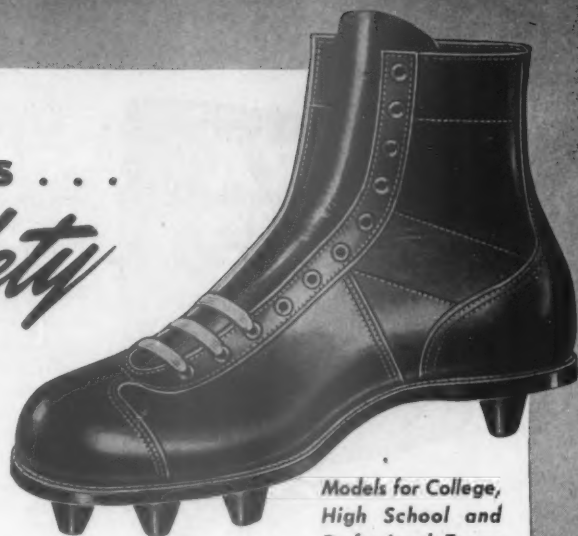
As soon as the "X" man is abreast of the "O" man he laterals the ball and continues on to the end of the "O" line. The "O" receiver then lat-

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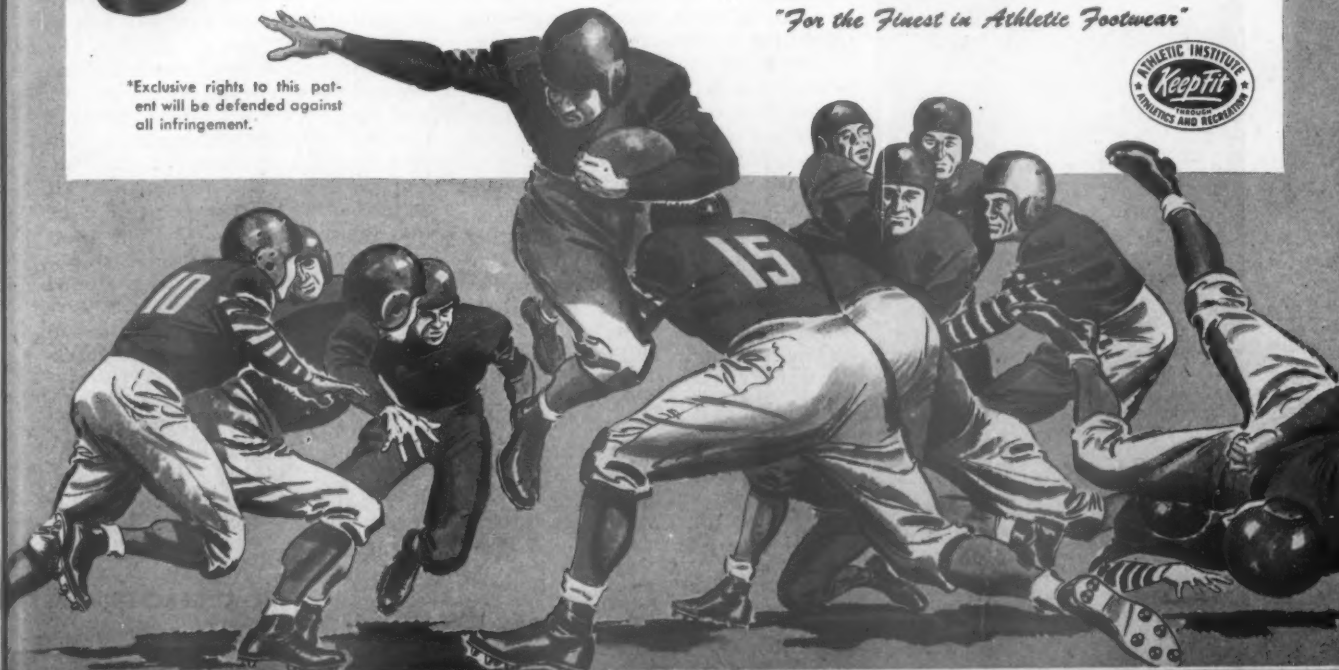
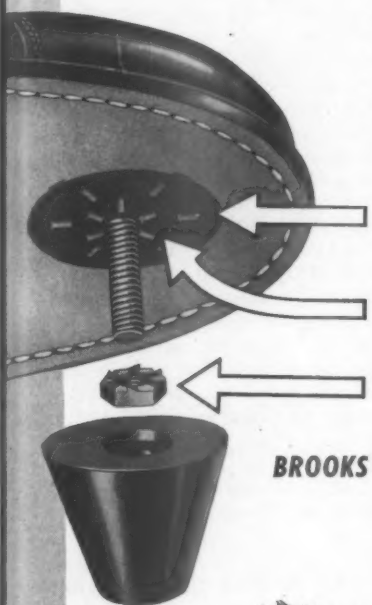
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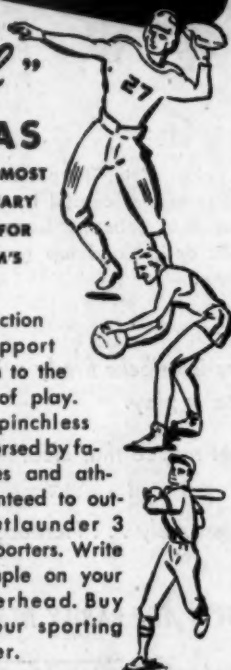


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erals quickly to the next "X" man and goes on to take his place at the end of the "X" line. This makes for a continuous and rapid-fire drill which may be speeded up or slowed down according to the wish of the coach and the capabilities of the men. It will develop confident and proficient ball-handling, if practiced with sufficient determination.

Fumbles are frequent in the six-man game as a result of the necessity for some kind of a pass on every play. We devote at least an hour each week to drilling on fumble recovery. The squad is divided into several groups of four or five men each. Each section is grouped in a rough semi-circle; a warning whistle is blown and the ball is thrown violently on the ground. Then get out of the way! This is rough and ready, but effective. What's more, it makes the men fumble conscious and more apt to come up with an opposition bobble and less apt to make one themselves. Another good way is for the coach to stand eight yards back from the line, drop the ball in the path of three charging defensive linemen, and "vamoose"! See which is the first man to scoop up the loose pigskin and run for a touchdown. This sort of thing should be emphasized, and it will soon be found that a team is recovering more than its share of fumbles in game situations.

Finally, how can we build up that vital element in the six-man game—

speed? In eleven-man football, the 250-pound, waddling, lumbering player was always put somewhere in the middle of the line, usually at guard. There it made little difference if he was a slow man. He could stand still and when a play ran into him he could stop it. In six-man football there is no place for the cumbersome player. He will hinder the team more than help it. Nobody in his right mind is going to run a play into a heavy lineman. He will be run around, and often.

If a track or any kind of a 100-yard straightaway is available it should be used. The backs should run the hundred in full equipment at least twice every day for time. The linemen should practice starts from a regular crouch position, and should be timed on ten-yard spurts. That is about all any lineman runs in the course of one play.

After the ends and centers have speeded up their starts to the maximum, they may go to the playing field. Here a dummy with a football on top of it may be set up. Each man should take his usual stance eight yards away, and his run and tackle from the second the whistle blows until the knocked-off football hits the ground should be timed.

If the vital importance of speed, speed, and more speed is sufficiently emphasized, even an initially slow squad will improve almost beyond recognition.

Golf Coaching Tips

(Continued from page 18)

golf swing which may be called truly American. It is a swing which can be grooved. From the standpoint of swing evolution it is extremely interesting.

The swing has been streamlined and wasted moves are eliminated. The swing has also become shorter and more direct. It gives the expert controlled power. It gives the "duffer" a gleam of hope that he might be able to master a tricky game.

The Direct Swing: In a direct swing, the path of the stroke is planned. The golfer is greatly influenced by the line of flight. He squares himself to the line; he starts his swing straightaway; he approaches the ball from inside the line and endeavors to swing straight through. The two hands swing in the same direction throughout.

Tournament golfers often start out with indirect swings and switch to direct swings after observing camera studies. Outstanding examples are Bobby Jones, Sam Snead, and Patty

Berg.

Emphasis on Weight Shifting: Golfers shift their weight from one foot to another during the swing. The foot action is restricted and controlled, being more across the sides of the feet, with the left heel not lifted as much as previously. Weight shifting often leads to a lateral hip movement. This lateral shifting, when accompanied by an arm swing, throws the move more into the upper torso. The net result is a straighter body with less distortion. An expert golfer, when viewed from a distance, hardly seems to move his body at all. Actually he gets a full turn of the shoulders on the backswing.

The modern body-move, when practiced, lends itself to grooving. The movement of the balance is in the direction of the swing. Weight shifting is encouraged by having the weight on the insides of the feet at address.

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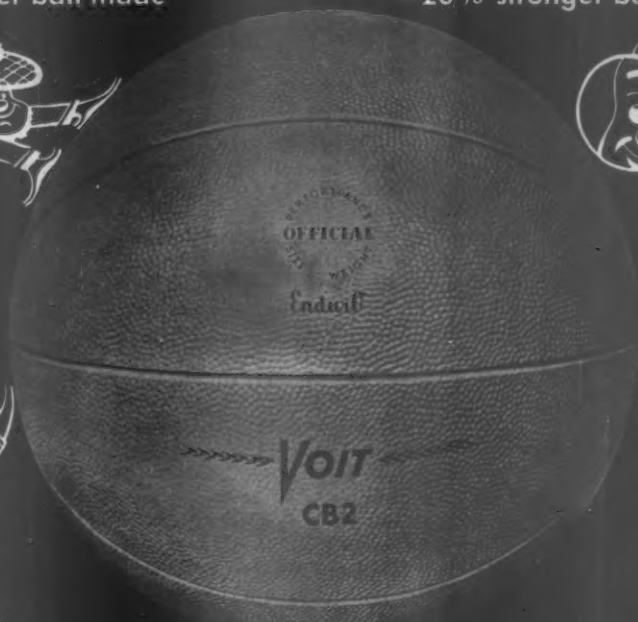
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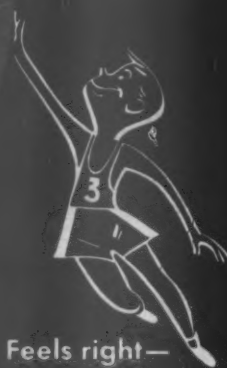
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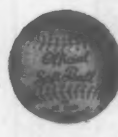
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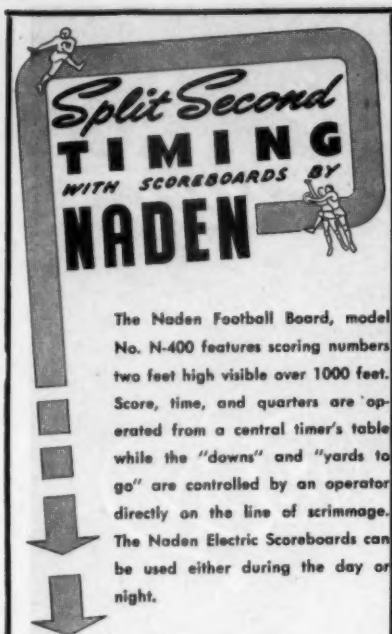


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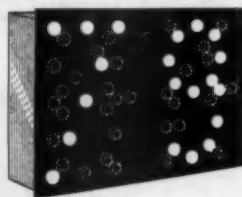


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The Naden Electric Scoreboard is 18 feet long and 12 feet high. Manufactured from heavy gauge steel. The numbers are formed by electric bulbs eyes. Home, visitors, down, and to-go are 16 inches high. The remaining lettering is 10 inches high.



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The Square Club: The club is faced squarely at address. During the swing the relationship of the club face to the hands, arms, and body is not changed. During the backswing the club is paddled back with no manipulation of the club face. Halfway back the club face may look closed, but as the body turns, the club opens almost miraculously and falls right into the plane of the swing.

This lack of club-face manipulation tends to give the golfer a better chance to have the club face square and move straight ahead through the ball.

It has been said that a method of rolling the club open on the backswing and closed on the downswing held golf back in England for fifty years.

Left-Side Emphasis: A right-handed golfer is called on to use his left side and left arm in initiating the upswing and the downswing. This calls for development and training. Tournament players, through continual practice and play, become almost ambidextrous. The left side of the body becomes overdeveloped.

The club starts back in an all-together move, with the left side of the body, the left arm, and the club co-operating. The direction of the move is along the line of flight. The weight shifts to the right.

The downswing originates in an unwinding of the left side where the left hip moves forward slightly. The left side leads, the arms drop to the right side of the body with the blow still intact; the impulse does not reach the club head right away. The golfer keeps his head back and stays in position for the blow. Although the weight shifts forward onto the left leg, the body does not get in the way of the swing by turning in ahead of the stroke.

Two-Handed Swing: The right hand was long regarded as a source of evil in the golf stroke. Now team work of the hands and arms is recognized. The left hand and arm, being weaker, work at a disadvantage in the swing.

The left arm is almost identical with the shaft of the club. The left hand and arm control the path of the club and lead the swing up and down.

Through the ball the left arm "holds" and the right, used as a forearm drive, "hits". This hold-hit formula is a Byron Nelson theme. He hesitated to put it into his golf book for fear of being misunderstood. Although the left hand and arm jump forward as a result of the action, the right hand and arm make the follow-through.

Even beginners may be taught to

hit through the ball using the two-handed method in a short, swing drill.

Emphasis on Head Position: The head is held steady throughout the swing and acts as a revolving point for the body. The golfer stays down to the swing and does not release his position until well into the follow-through.

Posture: Posture problems abound for golfers. Reasonable erectness, with a slight bend at the waist to accommodate oneself to the ball, is the rule. Among good golfers one sees no dipping gyrations in the shoulders either coming or going. A free swing of the arms is promoted by a golfer having a good "golf seat," with the hips held well in. If the hips are distorted, by breaking the posture through the middle, one really has trouble.

Head position, weight shifting, and reasonable erectness have all contributed to the clean-cut golfing posture seen nowadays.

The Firm Wrist: The beginner believes that he should cock his wrists and hit with his wrists. To get more distance he has been admonished to snap his wrists. Actually he is promoting a bad swing.

The swing of the expert evidences less and less wrist action. At the top of the backswing, the hands are "set" in a firm wrist position. In the swing away from the ball, the arm and club are together and there is no wrist action. Going up there need be no conscious cocking of the wrists. They will wind up as a result of the upward swing. The blow through the ball is a forearm drive.

The golfer's problem is to get the arm, hand, and club co-ordinating in a strong move. This is best accomplished with a minimum of wrist play.

Emphasis on Swing: The swinging move is a whirl of the club which builds up momentum. The swing has been described as one smooth-flowing move without any interruptions, mental or physical.

The swing starts away in a smooth flow and builds up momentum gradually. The goal should not be the ball but the finish of the stroke. The speed should be kept going to the finish.

The swing has been measured for time. The amount of time taken to complete the upswing equals the amount of time for the forward swing, although the forward swing travels twice as far. At the top of the backswing the swing slows down. This leads to a delayed cadence a one-a-and-a-two.

Swing Corrections

Swing corrections are best made by

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using the driving nets during the winter season. There are then no outside distractions and there is plenty of time and the instructor may lay out a program and have the student follow it. When a golfer is outside, the instructor loses some of his control over the situation.

To have a golfer build his swing or change his swing requires repetition and time. It means that a golfer will have some growing pains and go through an awkward stage. On the practice fairway or in the nets, where there is plenty of time, are the places

to make changes and corrections.

To correct a golfer's swing on the course, when he is in the process of play, is unfair and impractical. At that point a golfer has all he can do to defend himself and to adjust himself to changing conditions. To make him conscious of a swing detail is apt to make him "blow up."

There are experienced golfers who are very adaptable. When the instructor gestures or says a word, they know right away what is meant. They are the exceptions, however, and a coach should remember this.

A New Approach to Sports Lighting

(Continued from page 24)

ation of the arena wall, seven feet in height, surrounding the track. Two types of lighting patterns were used for these events: one in which the field and track were lighted equally, and one in which greater emphasis was made on the track lighting and subdued lighting on the central oval. The latter gives better visibility, especially when the arena wall, which is light gray concrete, was well lighted. This improved visibility and safety for the drivers and increased visibility for the spectators. With the first-row spectators' eye height only two feet above the top of the arena wall, the sharpness of cut-off of the lighting units was sufficiently accurate to eliminate objectional glare in the eyes of the spectators.

In addition to the new floodlights, four 36-inch spotlights and four 24-inch spotlights were installed. These may be operated either pre-set or adjustable.

The installation was approved and construction started 105 days prior to the date of its use. Under the disturbed conditions prevailing in the spring of 1946, it was a real accomplishment to deliver and install the necessary equipment. Acknowledgement is due to Mr. Van Marker and Mr. Al Winters of the Revere Electric Manufacturing Company for design and production of the lighting units, and to Mr. Charley Stover of the General Electric Company for securing development and delivery of the 3000- and 5000-watt lamps.

This article covers the initial phase in the improvement of lighting for Soldier Field. Beginning in the fall of 1947, the Chicago Park District signed a contract with the Chicago Rockets professional football team for the use of the field for the ensuing seven years for professional football games. One requirement was

that the football field be moved thirty yards to the south to improve the value of the seats in the south horseshoe. This required the installation of four new floodlight poles, each mounting eight 5-KW floodlights essentially identical with the floodlights used on the initial installation. This new installation was completed and placed in service for the Chicago Tribune Music Festival on August 16, 1947, and for the Chicago Tribune Charities All-Star Game on August 22, 1947. For the music festival, an illumination on a vertical plane of 20-to 30-foot candles was provided on the field and track. For the All-Star football game, an average illumination on the playing field of only 35-foot candles was provided. For other events, illumination levels of 60-foot candles on the area of the football field have been used. For future football games it is expected that the illumination on the football playing area will be increased to 75- or 80-foot candles on a vertical plane. This illumination may be augmented or highlighted by the use of eight 5-KW spotlights which are installed on the top of the colonnades.

This lighting installation has produced very satisfactory results for visibility both for spectators and players with a remarkable absence of glare. We have received a number of unsolicited comments from spectators, players, and football coaches on the excellence of the lighting in this field.

SIX-MAN FOOTBALL MAGAZINE

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J. H.—Dermatophytosis of the feet—incapacitated; returned to work in two days



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**TING SURE
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Single Wing at South St. Paul

(Continued from page 11)

John Kulbiiski played center on the University of Minnesota football team in 1936-7-8. Following this he coached football at Red Wing, Minnesota in 1939-40 where his teams won the Little Nine Conference both years, being defeated only once. He went to South St. Paul in 1941 where his teams won the suburban title with no defeats. His teams placed second in '46 and '47, losing only one game by one point in '46. His teams went undefeated for 28 games between 1939-46.

Diagram 4 illustrates our off-tackle play, or 67. All of the faking is the same as 69 except the left half runs as if he were going around the end but cuts sharply and goes inside of him.

Diagram 5. This is our inside-tackle play, or 65. All the maneuvers by the backs are the same, making the play look like an end run. The left half cuts sharply inside of tackle.

Diagram 6. This is our 63 play, a trap of a charging weak-side guard.

Diagram 7. Here we have one of our most effective plays, our reverse. The left half fakes to the fullback and hands the ball forward to the right half, close to the line of scrimmage. The position of this last exchange will depend on the speed of these two backs. The quarterback on all weak-side plays takes his step and fakes to the right, and then blocks the tackle out.

Diagram 8. Another reverse, our 66 play, goes outside of tackle and inside of end. This is run the same as 64 and is used when the tackle is smashing hard to the inside.

Diagram 9. We use this play, 68, when the defensive right end has become careless and is slicing in rather sharply.

Diagram 10. Our 67 play, left-end around, is run like 63, except that the ball is handed forward to the left end coming around. At times it may be necessary to delay the end for an additional count or two, depending on his speed.

Diagram 11. This is our 70 series of plays. We can run all of our 60 series plays here with but a very few variations in blocking assignments. The right half starts in motion about two counts before the ball is snapped. The timing must be perfect. He gets a half-pivot fake from the left half.

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After faking or giving the ball to the right half, the left half may fake or give the ball to the fullback who crosses in front of him.

As was mentioned before, we have a number of play series where the fullback does the half-pivot and ball-handling. We include, also, special plays with the above series to meet the needs against the different teams that we play. Most of our passes are developed from the running attack, which give the offense more effectiveness.

from here and there

(Continued from page 4)

ball and track coach at St. Michael's College.

...

Continuing the clearing house for coaches section of this column: Number 7 is a highly successful coach in a large New Hampshire high school, coaching football, basketball and baseball. Desires position in college field or a large high school in Florida... No. 8 has been assistant freshman football coach and freshmen wrestling coach at a large university in New York state. Has coached all sports at two small New York high schools and is at present assistant athletic director, football, basketball and baseball coach and head coach of track and wrestling at a large New York City suburban school. Desires position in large high school or small college.

...

JAY Wyatt, ambassador of good will for Wilson Sporting Goods Company, has the unique distinction of having officiated in every Central Collegiate, Western Conference and National Collegiate track meet. Jay was honored this year by being selected to referee the Central Collegiate meet. This was a long overdue honor for it was Jay who, with Knute Rockne, Con Jennings and Ralph Young, organized the conference twenty-three years ago. The conference was originally organized to provide basketball competition for the schools that were not members of the Western Conference. Jay donated a trophy to be awarded annually to the winner. Basketball competition died a natural death but the track meet has grown to be one of the nation's top track attractions. It is also interesting to note that in all the years of officiating, Jay never received an award or memento until 1944 when Great Lakes staged

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the Central Collegiate meet and presented each official with a bronze replica of the first place medal. Last year the Drake Relays and the press presented Jay with a Drake Relay watch.

• • •

WENTWORTH Military Academy at Lexington, Missouri, sponsored two National Junior College Athletic Association tournaments recently, both under the general di-

rection of Captain E. P. "Chink" Coleman. A golf tournament was held on May 28-29 at Armour Fields, Kansas City, Missouri. C. J. "Mick" McClelland, golf professional at Armour Fields was the tourney director. He was assisted by Lieutenant Summer White of the Wentworth staff. On May 30-31 the Association's national tennis tournament was played at Wentworth Academy. Colonel James M. Sellers, the school's tennis coach, was in charge of the tournament.

Pass Defense in Minnesota

(Continued from page 9)

is the sole responsibility of the secondary. We remind the squad that any successful defense, pass or ground, is the result of co-operation between the linemen and the backfield and of all men putting forth 100 per cent effort. Then we discuss fundamentals and principles in the following order:

Deployment of Linemen and Secondary: (See Diagram 1) The linemen take a normal six-man line spacing. The fullback and center are placed just inside the defensive tackles and about three yards back. The halfbacks are placed about eight yards from the line of scrimmage and directly behind the ends. The safety splits the two halfbacks, back twelve to fifteen yards from the line of scrimmage.

Rushing: All linemen, except the weak-side end, are instructed to rush the passer aggressively. We feel that the key to stopping the forward-passing attack is to deny the passer an opportunity to get the pass off or at least to make him throw while off balance.

Covering the Receivers: The weak-side end drops back and covers zone 1. The fullback and center cover zones 2 and 3, and the safety covers zone 6. The two defensive halfbacks are placed in zones 4 and 5 and are assigned the two ends to cover man-for-man. The halfbacks are not allowed to leave their respective zones or areas. A problem arises when an end goes down field and crosses over. In this situation we use the "switch", as in basketball, and either the safety or the other halfback will be responsible for him.

Going for the Ball: Once the passer has thrown the ball, every player not covering a man in the area, for which the ball is intended, leaves his man and runs hard in the direction in which the ball is thrown.

Intercepting the Pass: We tell our

team that, once the offensive team throws a pass, we have as much right to catch the ball as does the offense. We instruct the players to try to intercept whenever possible. Many coaches will probably disagree with this last statement, but we feel that, over a period of years, a team will have less to regret if a consistent policy is followed instead of one wherein a team intercepts one time and knocks the pass down another time.

Checking Receivers: As a general rule, we do not try to hold up an end or a back as we feel that we have to sacrifice rushing strength to accom-



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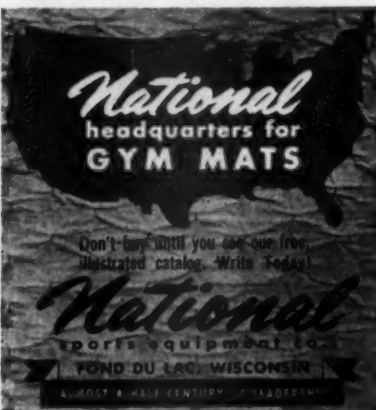
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Ath. Dept. State Teachers College, Milwaukee

plish this objective. On rare occasions, when we know from scouting reports that a team likes to throw to an outstanding end, we will try to hold him up if we feel that this is absolutely necessary.

Tackling the Pass-Receiver: If a pass is completed, we want the first man in position to tackle the receiver high so as to dislodge the ball and make him fumble if possible.

Defense Against the Man-in-Motion: (Diagram 2) We cover the man-in-motion, whether it be off the T or any other formation, with the half-back on the side on which the man is going out. In this case the safety takes the end which makes for a very easy switch in assignments.

The Tactical Situation: Our team is instructed to anticipate either a run, a pass or a kick. The players take their cues from the position of the ball on the field, the down, the yardage, score, time remaining to play, and the actions of the backs and ends. When they see a pass developing, the secondary drops back and plays according to instructions.

Following the presentation of the fundamentals and defense principles as described, the squad goes to the field. Material covered in the meeting is demonstrated, and questions are answered. After the demonstration, the squad is divided into two groups, linemen and backs. The linemen practice rushing and hurrying the passer. The backs practice fundamentals and techniques in a simple drill which consists of sending one man down to be covered by one back. This gives the defensive man an opportunity to practice timing, taking his position, preventing the offensive man from moving behind him, and an opportunity to practice intercepting the pass.

After each back has had several tries on the defense alone, we add a second back to the defense and continue to add backs at regular intervals until we have five men in the secondary. With each addition to the secondary we add a pass-receiver until we have four possible pass-receivers going down for passes. Once we have this normal defensive drill underway, we make it as competitive as possible. For each pass completed the offensive team is given five points and for each pass intercepted the defense is awarded five points. Neither team scores on an incomplete pass.

Another drill that we use is one involving the passer and the defensive men. Any number of secondary men are placed in position, and the passer throws the ball in their general direction. This is an exceptionally good

drill to practice catching the ball while the player runs toward it.

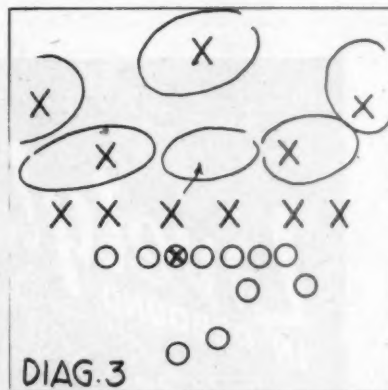
The practice session becomes more interesting as correspondingly more drills are used. This is particularly true in high school spring practice where boys do not have the weekly game stimulus. After the first week of practice we co-ordinate our defensive and offensive pass drills in as near to game situations as possible.

Although we have found this plan to be quite successful in our own situation, we should hesitate to suggest a change in the methods that others use if they are having good results with their present defense. Defensive and offensive changes should be made only when they are clearly needed, and not because a coach has the desire to "try something different." Time-tested strategy in football, as in everything else, is safe insurance for success.

Pass Defense in Texas

(Continued from page 9)

that will arise in a game. In my opinion, one of the hardest passes to intercept is the one when a defensive man must come in from the secondary at full speed and take the ball. The boy who is quick to react and



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has the timing necessary will come up with the ball more often.

The best defense against passing is rushing the passer. By rushing the passer, the defensive line can prevent the completion of the longer passes. We like to rush our line, and, at times, drop a guard back into the secondary. Occasionally we vary the men who rush, and the ones that protect in the secondary.

In rushing the passer, we have the players rush with their hands and arms held over their heads. Often they will be able to deflect the pass, and it means that the passer will have to pass over them. There is the possibility of the short passes missing some of their targets. We teach our guards and tackles to be alert for short passes if they get blocked.

We drill on pass defense for a few minutes every day. Most of the drills may be worked in while we are working on offensive patterns.

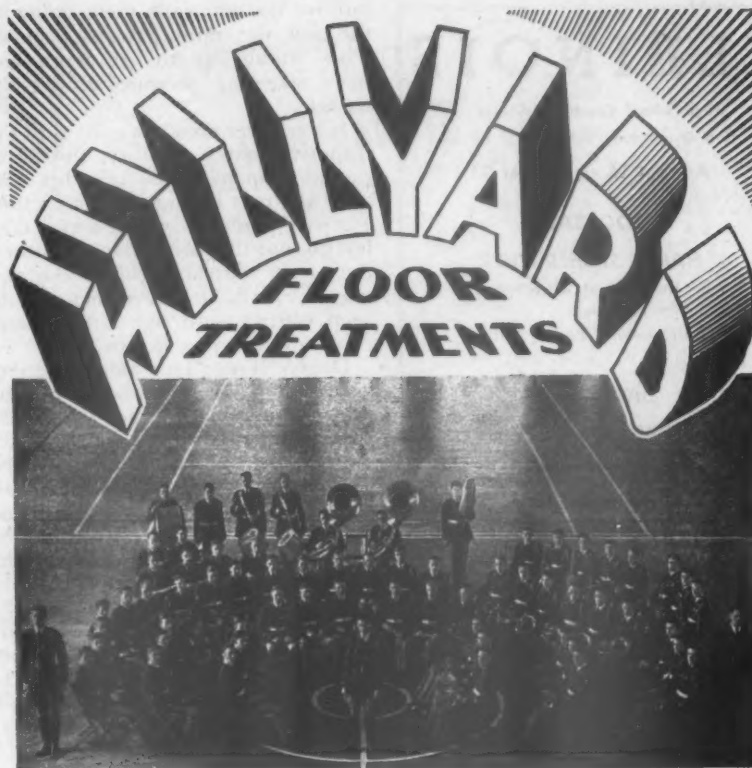
We place emphasis on the position of the defensive man on a pass-receiver. This will vary, depending on whether a line-backer, half or safety, is being used. Changes will have to be made to meet the passing attacks of different teams.

We use different pass defenses, depending upon the strength of our opponent. Most of the time we use a combination man-to-man and zone, or it may be called a semi-zone.

Defense Against the Single Wing: We teach our left end to rush fast and jam the wingback as he rushes the passer. The right defensive tackle should charge over the left offensive end. The right defensive end and the guard should rush hard. All of the linemen should be alert for a back delaying and slipping out or through the line. They should charge straight over anyone that they find hiding or delaying, but their main duty is to rush the passer (Diagram 3).

When anyone on the defensive team sees an indication of a pass, he should notify his team by yelling, "Pass! Pass!"

The duties of the defending men depend upon the way in which the offensive men come out to receive the pass. If the right end and wingback go deep down the field, the half should cover the deep outside man, and the safety should cover the deep inside man. If three men go out on the right, the line-backer on that side should pick up the third man who will be the blocking back or the fullback. The halfbacks should yell, "Man across," when the ends cross deep. We know that our line-backers are going to be conscious of the flat as soon as the pass is indicated,



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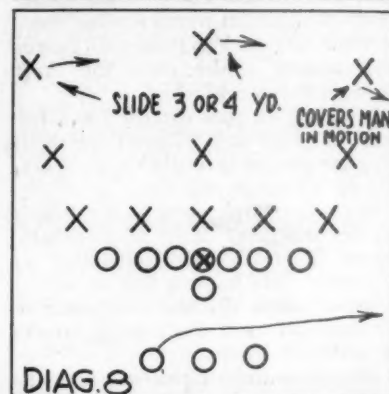
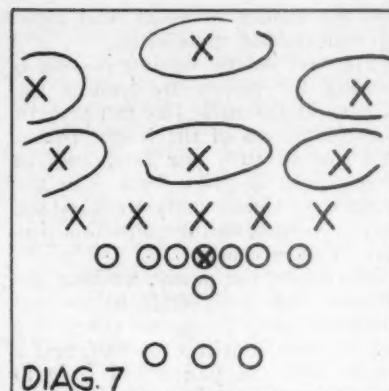
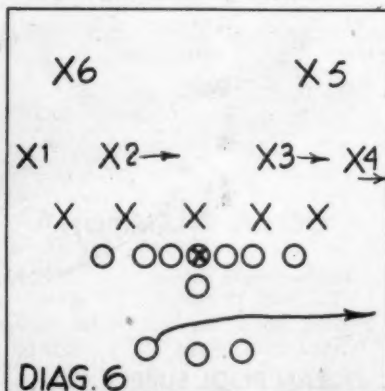
but we do not want them going to the flat the minute a pass shows. They should try to get depth and help take the pressure off of the halves.

If a receiver does not come into the defensive man's territory, the latter should drop back and play his zone until the pass is made, at which time everyone plays the ball. If a man does not go into the safety man's territory, the safety must be wide-awake and play the ball. Defensive men should keep contact with one another and "talk up" the pass defense.

Double Wing: The safety is responsible for any man who comes into the deep center zone. He helps the half-back who needs help and is responsible for the deep inside man or the deep center zone. If the ends cross deep, the halfbacks exchange with one another, and the safety picks up the man who is about to get away. The right guard pulls back directly over the short middle (Diagram 4).

On a running pass to the right, the left half should come up to the outside, the safety should move over to the left half's territory, and the right half should move toward the safety's territory and play a "half-and-half." The right line-backer should drop back to watch for a delayed man coming into that territory.

Running Pass to the Right: If the



guards are rushing the passer, the center should drop back over the middle, and the right end should take a couple of steps across the line of scrimmage and float to the outside on passes. The right half should take a step to his outside and watch the left offensive end. We tell the men not to let the receiver get behind them. A short pass will not hurt as much as one completed behind the halves or the safety (Diagram 5).

Defense on T Formation: The line-backers should play almost man-to-man on a quick pass. If, on the T formation, they see a quick pass develop they should play the offensive ends. We try to practice this a great deal. We may use a 5-4-2, as shown in Diagram 6 in which the Number 4 defensive man slides over and drops back a little; 3 and 2 slide about two yards.

Diagrams 7 and 8 show a 5-3-2-1, the first without a man-in-motion and the second with a man-in-motion.

In closing I will say that we attempt to change our short-zone defense each time by having an end cover the flat one time and then rush the next, and cover the middle with a guard. We try to keep the assignments of the three deep men the same, placing the responsibility so that they will not become confused.

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150-Pound Football at Michigan

By George H. Allen

Assistant Coach, University of Michigan

IN THIS ARTICLE, I am not going into the technical phases of blocking and tackling or of offense and defense. My purpose is to make a few observations which I hope will prove helpful to coaches who have limited material with which to work and who are starting 150-pound football from scratch as we did at Michigan.

I believe that a good, little man is just as valuable as a good, big man, providing he has the desire to play football. This was found to be 100 per cent true with our squad last season. What a small man lacks in size he makes up in speed, aggressiveness, and agility.

When we started 150-pound football at Michigan I was under the impression that we would have many candidates, especially backfield men, who had played football in high school. Much to our surprise it was rare to find a boy who had earned a varsity letter in football. The majority who had gone out for their high school squads were too light. Some had played sand-lot football but the vast majority had never played. Of our entire squad only four men had ever played varsity football. This created a problem for us.

Another major problem we faced was the continual change of personnel. Over a period of one month we had 125 candidates out for football, but never more than 65 at one time. Many thought they were interested, but when the headgears were strapped on, they decided that they would rather spend their afternoons in the campus drugstores. From our experience it is suggested that coaches starting this sport should set a specific date and not allow candidates to report for football after that. This would allow the coaches to concentrate on the material at hand.

George H. Allen, in addition to being captain of his high school basketball team, held the broad jump record when he graduated. While in the Navy he played varsity football at Marquette University and Alma College. As athletic adjutant at the Naval station at Farrogut, Idaho, his teams won three championships.

Because of a limited coaching staff (we had but two coaches to handle the entire group), much valuable time was lost, and progress was rather slow. Since Michigan represents one of the major football powers and our material was definitely on the inexperienced side, we faced a task of selecting a functioning eleven that would uphold the university's reputation. All schools in the Big Nine Conference had record first-day turn-outs, Michigan having the smallest number. Other schools that are planning 150-pound football teams in the future will undoubtedly face similar situations and should provide for a larger coaching staff to handle adequately the candidates.

As line coach, I began by teaching stance, blocking, and tackling. We spent all of our time on these three fundamentals and on teaching plays against the dummies. We felt that if we could teach these boys to block and tackle they would be an asset to our team regardless of anything else. Being a strong advocate of blocking and tackling, I thought that most coaches devoted too little time to these fundamentals. These rudiments were stressed at every session for at least fifteen minutes during pre-season drills and twice weekly after the season began. We experienced no injuries in all the time spent on blocking and tackling.

Contrary to tradition, we spent much of our time on offense, using the T formation. Head coach Clifford Keen's theory was to convince the boys of the value of the T as our offense. Since the varsity was using the single wing with great success it was logical that our boys were conscious of this offense. We did not stress defense, except to correct techniques or errors made, until the week before our first game with Illinois. Perhaps we spent too much time on offense and not enough on defense¹ but the boys were convinced that we could move down the field. To assure them and ourselves we scrimmaged the freshmen

¹Proof that Michigan developed a powerful offense is revealed by the fact that they scored 84 points in four games while holding their opponents to 13; averaged 16 first downs per game while tying for the Conference championship. Michigan lost one game to Ohio State, 13-2, but gained revenge at Columbus by swamping the Buckeyes 39-0.

and had little trouble scoring frequently.

We scrimmaged for at least one hour every day after completing the fundamental drills. It is our contention that coaches who are starting football in this class can save much time and effort by scrimmaging as many boys as possible. Because of our emphasis on offense, consistent yardage was made no matter what combination carried the ball.

In regard to the problem of equipment, other schools and coaches can profit by our experience. The main difficulty is to have helmets that fit properly. Henry Hatch, our property manager, had difficulty in getting prompt delivery on the smaller sized helmets that he ordered; consequently, we were forced to wear varsity helmets that were too large. With these the boys were continuously subject to injury. The few boys who were fortunate enough to locate small helmets were continually changing with those scrimmaging, causing delay and loss of valuable time. We did receive proper fitting headgear for all before our opening game. Shoulder pads were not much of a problem. A few of our linemen solved the problem by wearing a sweatshirt under the pads, mak-

ing a nice snug fit. Unless a coach intends to spend money and outfit his ball club completely, he should not bother with this sport. It would be much better not to have a football team than to place one on the field in ill-fitting equipment. Michigan's team last season was well equipped; we had new helmets, jerseys, pants, and shoes.

All teams should weigh in their personnel the day of the contest, and 154 pounds should be the maximum. Coach Keen, who is in charge of varsity wrestling and knows the weight problem thoroughly, is a strong advocate of this policy. We played our conference games last season without any weighing-in procedure. This ruling has now been changed. Both Wisconsin and Illinois believe in putting the boys on the scales before each contest. A few pounds either way means much in this brand of football, whereas in varsity competition a man can spot his opponent's excess poundage and not be handicapped.

Our lads had just as much ability as the majority of varsity players. The only reason they had never participated in varsity football was because of their light weight.

Experienced men say that the way

to pick men for this type of football is to look for short, squatty, compact candidates for linemen; tall, lanky boys for ends, and fast men for the backfield. One of our best linemen, however, was a tackle who stood slightly over six feet, and the other tackle was crowding six feet. In my opinion height is not too important. Men should be selected according to their respective abilities regardless of whether they are linemen or backs.

In our 150-pound football we had very few injuries that kept men from playing. Some of the other Conference teams, however, suffered broken collar bones, arms, etc. Coaches should remember in this sport that the material will be composed of: (1) boys who haven't played football for many years; (2) those who have never played organized football; (3) those who have never played or participated in athletics of any kind under varsity competition. Because of this their bodies must be conditioned gradually to the sport or many men will suffer injuries. We realize that at some schools time was a key factor, and scrimmaging immediately was necessary to find eleven men. One can readily see that progressive conditioning with a group of this type is im-

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perative in 150-pound football.

From all reports and through conversations with spectators we have found that this type of football has really succeeded in our area. Within a few years it is expected that crowds of 15,000 to 20,000 will be common. By then the Conference will have nine teams, better organized, with more publicity. One sees blocks and tackles

made just as hard as, if not harder than, in any varsity game. Perhaps the reason for this is the evenness of weight. Nobody has to hold back.

At Michigan we feel that 150-pound football is here to stay. The spectators enjoy it, and this may be another step forward in an attempt to provide athletic competition for a larger group of students.

New Books and Films

Coaching the T Formation, by Forrest W. England. Published by the Arkansas State College Press, Jonesboro, Arkansas. Illustrated. One hundred seventy-five pages, \$3.75.

This book is not concerned with general coaching problems but only with matter pertaining to T formation coaching. Each chapter concerns itself with a basic problem vital to T formation coaching.

There are 134 diagrams which illustrate 115 plays and also several photographs. The plays are classified so that similar ones appear together. A partial list of the contents follows: Offensive Line Play of the T Formation, Offensive Backfield Play for the T Formation, Meeting Changing Defenses, Running the Ends from the T, Defense Against the T, Your T Formation Off-Tackle Offense, Your T Formation Inside Tackle Offense, Your T Formation Offense Up the Middle, Quarterback Strategy for the T.

Forrest England writes from thirteen years of coaching experience, seven of which have been with the T. The book will be off the press August 15. We like especially the fact that the book deals with just its chosen subject and doesn't waste time or space in reminiscing or training. This is undoubtedly the book of the year on football's most popular offense.

Physiology of Exercise, by Laurence E. Morehouse and Augustus T. Miller, Jr. Published by the C. V. Mosby Company, St. Louis. Three hundred fifty-three pages, \$4.75.

In the authors' own words this book was written because they believe that "the physical potentialities of the human body are best revealed by an analysis of the manner in which they meet the exacting requirements of exercise."

All phases of physiology are considered from the standpoint of strenuous exercise. Such topics as the metabolism of muscle, oxygen requirements, the heart, the circulation, pulmonary ventilation, carbon diox-

ide transport and acid-base balance, as well as many others are analyzed under the stress of heavy exercise.

Considerable use was made of the fatigue laboratory in arriving at the facts presented. This is a laboratory where volunteers engage in many forms of heavy exercise and then become the subjects of various tests. These include analyzing blood samples, measuring the amount of perspiration, determining oxygen requirements, studying heart action, and many others.

Charts showing the caloric expenditure in numerous activities from sleeping to running as well as graphs showing heart rate and oxygen expenditure under various work loads are given.

The M Book of Athletics, Volumes I and II, by John Wendell Bailey. Volume I, 304 pages, \$3.50. Volume II, 347 Pages, \$5.00. The Set, \$6.00. Published by John Wendell Bailey, 27 Willway Road, Richmond, Va.

These books trace the origin, development and history of varsity teams in all sports at Mississippi State College from 1880 to June, 1947. Volume I covers the period 1880-1930 and tells of the beginnings of each sport as it was started at the old A and M college.

Volume II covers the period 1930-1947. It begins with a thumbnail sketch of the college and then picks up sports in the fall of 1930 and continues through June, 1947. This volume contains the summaries and statistics on the various sports and also has a chapter on the band, cheer leaders and student managers.

The statistics include data on every athletic contest in which the varsity teams have participated with dates, places, scores, names of all team members, their positions, etc.

New Films

Around the Diamond, co-sponsored by Wilson and the Pacific Coast

league. Produced by Harry G. Burrell. Available at Wilson offices in June.

This new instructional baseball film has the various phases of the game taught and illustrated by famous players. It was made at the spring training camps of the member teams of the league. The eight managers of the league each taught a different position or phase of baseball. Some of these handled the demonstration of how-to-do-it personally, while others directed star members of their teams on how to illustrate each point.

Managers included in making the picture were Frank (Lefty) O'Doul of San Francisco, Casey Stengel of Oakland, Jo-Jo White of Seattle, Jim Turner of Portland, Bill Kelley of Los Angeles, Jimmy Dykes of Hollywood, Joe Orenego of Sacramento and Jim (Ripper) Collins of San Diego.

Hitting is covered thoroughly with O'Doul, one of the greatest in the history of the game, teaching left-handed batting and Kelley dwelling on the fine points of hitting from the other side.

Pitching is a familiar subject for Turner, the veteran big leaguer, and he calls on another familiar name to hurling, Tommy Bridges, to make the subject even more complete.

Base running is demonstrated by White, the former Detroit Tiger fleet-foot. He touches on all of the intricacies of running the bases, including every recommended form of sliding.

Casey Stengel has the job of combining the catching and the outfielding. Billy Raimondi demonstrates the catching, as directed by Casey, and the outfielding is illustrated by such players as Vince DiMaggio, Lloyd Christopher and Brooks Holder.

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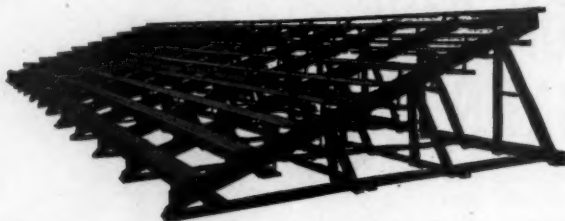
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- He has thirteen years of experience, the last seven of which have been with the T exclusively. In the past six years his T teams have lost eleven out of fifty-four games. He has been one of the heaviest contributors to T literature. Many of his articles have appeared in this periodical.

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Ball Possession In Basketball

(Continued from page 26)

ference in the final score was relatively great, but even in these instances its role could hardly be considered significant, for the differences in ball possession time were not great. The lack of relationship between ball possession time and team scoring ability bears out the view that the team taking many chances at the basket, although risking loss of the ball, nevertheless enhances its chances of scoring through this very risk, and that the team which freezes the ball, thus withholding scoring opportunities from its opponent, likewise withholds these same opportunities from itself.

The results of this study do not mean to imply that coaches should spend less time and effort upon ball handling and passing, but rather to point out that college basketball has reached the stage, at least among the better teams, where factors other than the ones considered in this study would seem to be of greater importance in terms of building a winning team.

The writers wish to acknowledge the help given by Weston Page, Graduate Assistant, in securing the data reported in this study.

This article is one of a series of studies carried on through the courtesy of the Boston Garden-Arena Association.

Six-Man Football Offense

(Continued from page 13)

ball from the quarterback and gives it to the right half who goes around left end with the quarterback leading the interference.

These plays may be worked to the right or the left by reversing the assignments.

A few final suggestions: It is better to have a few plays that work than many that may misfire because players do not know their assignments. Plays worked in sequence have a better chance of success than those tried in a haphazard fashion. The best plays should be saved for a possible score. The element of speed should be stressed as six-man is the game for fast players.

Boys should be in condition before they are scrimmaged or put in a game. In this way injuries and criticism of a coach and the game may be avoided. Special precautions early in the season, when the boys are not fully conditioned, will reduce injuries that are not apt to occur when boys are in playing condition.

The Intramural Golf Tournaments

(Continued from page 14)

from schools located in the larger cities where golf courses are available. In many of the smaller cities, however, the country clubs co-operated with the schools as indicated by a letter from a secretary-manager of a Montana country club who writes, "Our club has adopted the school program for golf."

A member of a state association writes, "I have championed an effort to have golf included as a state association sponsored activity on a state-wide plan. This will give great impetus to golf for high school boys."

From a state department of education comes the communication, "Your announcement was received and is a commendable project. Perhaps we may be of service to you."

Another letter speaks for itself. "A thousand thanks for all the help you afforded us in getting our first intramural golf tournament under way. Fifty-five players have entered and have been assigned to two divisions after turning in their qualifying scores."

"I think your tournament will aid us a great deal in stirring up interests in golf. You would think down here where we play golf twelve months of the year that we would be swamped with golfers, but it is not true."

"Your program will lead to an interscholastic program equal to all spring sports."

And so on and on, the letters we have received would indicate that much interest has been aroused this first year. Many schools have had to have two tournaments, one for the high qualifiers and one for novices.

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